

# COAL AGE

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## Coal Industry Lags in Merchandising Knowledge

TRADE in bituminous coal and the steam sizes of anthracite is highly competitive. As between mines there is the interminable variety of grades and kinds of coal and the wide spread in costs of production which, coupled with different ideas as to margin and profit, permit, even encourage and generally reward intense selling efforts. Each shipper of coal, whether producer or wholesaler, with a few years of past has a back log of permanent business represented by a limited number of consumers, usually among the larger users, on whose trade year in and year out there is a measure of certainty. Every shipper is looking for more of just such customers as few there are who thus have their total output spoken for. Railroad and public utilities represent the classes of business of this character in which there is the largest element of permanence and for which there is keen competition.

As between fields the competition for business is as marked as between individuals and is more easily observable. For instance, in 1920, while the Eastern fields were engaged in trying to fill Europe with coal and were temporarily neglectful of their trade in the West and Northwest, shippers in Illinois and Indiana rose to the occasion and filled many a bin in that far country that had never before held coal save that had come by way of the Lakes. There is no let-up in the rivalry of the East and the West for the Northwestern market and in like degree the all-rail and water-borne coals contend for the lion's share of the business in New England. From the time boat rates rose to unheard-of heights in 1917 until quite recently all-rail coal had the advantage in New England over that from Hampton Roads, but now that other outlets for sea-borne coal from the Southern fields are constricted and water rates are again low, even though not yet to pre-war levels, shippers of central Pennsylvania and Fairmont coal are meeting opposition of stern sort.

The story of the distribution of coal is a series of such illustrations of the general truism that of steam and general-purpose coal this country has abundance and that many seek a share of the trade. Alabama competes with western Kentucky on the one side and with eastern Kentucky and Virginia on the other. The coal producers of Iowa, Missouri, Kansas, Oklahoma and Arkansas compete in their sales with producers of coal in Wyoming, Texas, Illinois and even eastern Kentucky and find in addition that the fuel-oil companies are actively engaged in the markets of the same field. Southern West Virginia coal, carrying a higher freight rate and more heat units, is offered in lower Michigan against Ohio coal and the steam sizes of anthracite have hard sledding when the price of bituminous coal is low.

That the quantity of coal consumed each season is fixed by factors beyond the control of the sellers of coal

is accepted by the trade almost as axiomatic. This is not entirely true inasmuch as a plethora of dirty coal such as was had in the war years called forth a greater tonnage than would otherwise have been required, and it is more than likely that lack of confidence in the present price level is backing up consumption of coal even more than of any other commodity. Nevertheless it is not far amiss to say that the consumption of coal is inelastic. It is for this very reason that many mines make for much competition and why the field is open for advanced methods of selling and marketing coal—of meeting competition, in other words.

Whether seeking to invade new markets or to repel invaders, whether protecting business built up near home or going after more tonnage in a recognized market territory, shippers in general, but more particularly in the East, have built up and now maintain their permanent trade in the good old-fashioned way of older business—personal relationships. The producer-distributor can give assurances of uniform quality and steady supply, the wholesaler-distributor stresses the factor of service in meeting the changing requirements of the consumer and of being able to obtain coal in periods of emergency. But in reaching for new business they both have depended on the shopworn argument of the "best coal at the best price," and have found no different way of reaching the buyer than the spoken word. What chance has one such when he is greeted by the sign "No Coal Salesmen Interviewed Today," such as hung in certain offices this summer?

John Lloyd, a successful merchant of coal and other things and for three years the president of the retailers' national association, has said that no real effort has ever been made to create a market or to show the consumer how to burn coal. Coals for which there is now no taker can be sold if the "operators are willing to use modern, up-to-date merchandising methods, but so far nothing practical has been done." Exceptions to these generalizations but prove their worth. In the mechanics and engineering of mining we are at the top of the list but in marketing and merchandising we have as yet just begun to learn.

## An International Issue

IN these days of self-determination we suppose that every nation should design its coal tipples as it will. So elementary a right must in no way be denied. Equally there must be a right of free speech, and we hope that we may not be censured if we come out boldly and express a somewhat narrow preference for what is now the accepted United States way of handling cars at the surface when hoisting coal from a shaft.

True the anthracite region with its shafts located so often far from the breaker which they serve adheres to the past in this respect, rarely using self-dumping cages unless there is a chance to discharge their con-

tents directly into the breaker. But in this, as in many other ways, the anthracite region is a law unto itself.

Almost universally cars at the shafts in the United States are automatically discharged by self-dumping cages as soon as they reach the surface, except where they do not come at all to the daylight but discharge their contents into bins at the bottom, to be brought to the surface in self-dumping skips.

So far are we committed to confining the service of cars to the underground that at three mines at least where the seam is shallow the coal is dumped into a bin, fed to an apron conveyor and brought to the surface by that instrumentality.

On the whole the mining public of the United States believes in the self-dumping cage, the self-dumping skip or the apron conveyor—so much so that the argument is now regarded as beyond controversy. It holds firmly that this method makes it possible to increase the capacity of a mine by speedy transportation in the one place where cars must be handled in units or not at all, that it relieves congestion at the foot of the shaft, that it lessens the number of men employed so as to make a shaft as economical as a drift or slope, that it saves much expense in the erecting of surface work, that it eases the workman of much hard labor and that it transfers the function of speeding up operations to the engineer, who naturally takes delight in letting the steam or the electric current do all that its power or its controls will allow it to do.

It believes in these principles as surely as it does in the Bill of Rights, as a matter without argument to which all must agree. It wonders that the Gordian Knot of large production—for so the mining public regards it—has not long ere this been cut in Great Britain and Canada. Engineers will declare that with self-dumping cages, a plant costing as much as the Jubilee bankhead, described in an article in this issue, could handle, if its cars were larger and its underground workings well developed, not merely 2,000 but 5,000 tons per eight-hour day, and will add that by not handling the cars on the surface by hand one great objection to large and cumbersome cars is removed. To the engineers of the United States no need would appear for the long, high steel trestle that the Jubilee bankhead contains.

Mining in Nova Scotia is beset with many difficulties, among which are the steepness of the measures and the long distances between shaft and workings which are the outcome of submarine mining and the operation of old mines. For these reasons the mines should, it would seem, be worked by large equipment. Just as our great transcontinental hauls and those of Canada demand big railroad cars and large locomotives so the Nova Scotia conditions require, if economy is to be attained, large mine cars and heavy hoists capable of moving lengthy trips. The solution of problems such as these is found in the mammoth equipment—at least it would be by such means that the engineers of the United States would seek to solve them, wherever like, or even less severe, conditions are to be met in this country.

The thickness of Nova Scotia coal is favorable to large units and would not stand in the way of such changes. The operating concerns have shown themselves progressive in the many years of their operation, for it must not be forgotten that their mines predate ours by many, many years. They have been willing to modify much of their practice as time has passed and invention has offered new opportunities. Conse-

quently before long they will scrap the small car and the decaging headframe, at least it seems so to mining engineers across the international line.

But this is a United States view of a Canadian problem—a long-distance view, it is true. Doubtless if we knew the Canadian situation as well as we know our own we would be less positive that the best methods have not been chosen. For our part with our conditions of operation we believe that the adoption of the self-dumping cage and still more of the skip is one of the greatest advances made in the art of coal handling. Long experience and great technical ability have equipped the engineers of Great Britain and Canada to meet their problems, and for this reason it may be surmised that they have good reason for standing staunchly to methods which in our case have proved less advantageous than those by which they have been superseded.

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### *Curing Coal for Market*

MUCH interest has been developed in the spontaneous combustion of coal, but no consideration has been taken of the question of curing it so that it will not fire in storage. The process might be performed as follows: Store the coal in piles of a height calculated to heat it to, say, 160 deg. F., more or less, as proves best, and when it reaches that temperature and has consequently become extensively oxidized, cool it by moving it to another place. It is quite possible that having taken up at the high temperature a large percentage of the oxygen needed for saturation it will not heat again but will continue its process of oxidation slowly and without danger till it reaches a fully saturated state.

This rehandling, however, would be expensive, and the price of coal is so low that it seems impractical to put it through any such process merely to obtain the advantage of having a coal that can be stocked. Yet it is being found profitable to stock small sizes in the summer so as to continue the production of domestic coal when steam coal is in small demand. In such an event it could be piled so as to generate the required temperature naturally so that when it would be loaded it would be already cured and the loading might cool it enough that it would be free of the possibility of further heating.

Perhaps stocking at the mines affords a degree of safety from heating that coal that has not been stocked does not possess. Especially would that be the case if the coal were moved in cool weather or in the winter. Interesting questions might be propounded: Is pre-stocked coal safer than coal that is stocked for the first time? and how long should coal be stocked and how, to give thereafter the needed immunity from dangerous heating?

The same question arises with regard to powdered coal. Will coal powdered at the mine, exposed to the air for a few hours in a bin and then loaded into a tank car and again loaded into a tank motor truck and further dumped into the purchaser's bin be, by that time, so far oxidized as to be less likely to heat spontaneously than coal which is pulverized at a power plant and dumped directly into a bin to heat for some hours undisturbed?

The coal might be moved even more often and so given even further opportunities to oxidize and cool off. These are mere surmises. Experimentation may develop that the immunity given by these processes would be considerable and hence valueless.



## Jubilee Steel Bankhead at Sydney Mines Will Introduce Many Innovations in That Type of Structure\*

Each Seam Will Have Separate Hoist—Slack Will Be Loaded Mechanically Into Box Cars—Will Build Around Present Bankhead and Replace Backstay by Tension Members—Each Cage Carries Two Cars

By A. DAWES†  
Sydney Mines, N. S.

THE Jubilee Colliery has two shafts, one being used for the hoisting of men and material and the other for the hoisting of coal. The former, locally known as Jubilee "A," was sunk some years ago, to tap two beds of coal approximately 560 and 740 ft. below the surface. The latter, known as Jubilee "B," was sunk between 1914 and 1916.

Installed at the "A" shaft is a large ventilating fan and a man-hoisting engine, both electrically-driven. The ducts and housings of the fan are of concrete, and the hoisting engine and fan motor are contained in a substantial concrete building. A steel headframe surmounts the shaft.

In contrast, the surface plant erected at the "B" shaft on its completion consisted of a wooden headframe and bankhead building, with dump, screen and picking belts, taken from the discard of various other collieries, some boilers, second-hand hoisting engines and an antiquated box-car loader. A few shacks were scattered here and there at random as shelters for the balance of the various pieces of equipment required for operating a colliery.

All this was hardly in keeping with the equipment at the "A" shaft or commensurate with the importance of the "sinking" then just completed. This entire equipment, however, was assembled merely to serve until such time as the coal mined from the colliery would warrant a larger monetary investment for better equipment.

Increasing development of the mine underground made necessary in 1918 the purchase of a 3,000-cu.ft. electrically-driven air compressor. This was erected and housed in a temporary building and placed in such position that the engine house of the future would contain both the compressor and the coal hoist. This machine is the only redeeming feature of the surface equipment at the "B" shaft.

### OUTPUT IS NOW SEVEN HUNDRED TONS DAILY

The output at this mine has steadily increased until it now averages 700 tons per day, and the bankhead, hoisting facilities and mechanical equipment are all being severely taxed in handling this quantity of coal. Every part requires constant attention and continual repairs to keep it in running condition. The number of men employed in the various operations involved in handling the coal from the pit bank to railroad cars is excessive and the all-round mechanical efficiency is extremely low. These conditions make the cost of producing coal unduly high.

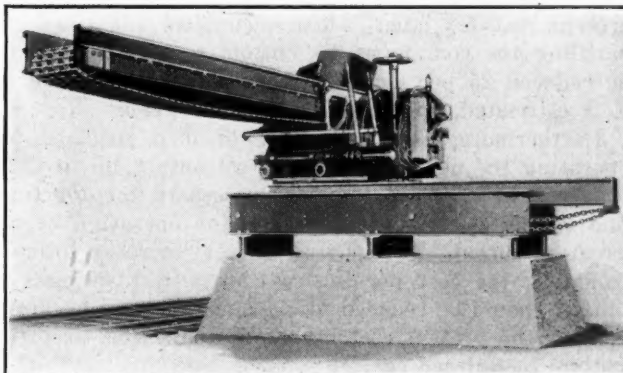
Provision of a new bankhead with adequate coal-

hoisting facilities was considered early last year, the inadequacy of the existing equipment then beginning to be seriously felt. When, later, large contracts for coal from this colliery were obtained, which it would be impossible to fill unless additional equipment was installed, the company authorized the investment necessary for this purpose.

The new surface plant, now under construction, includes two electrically-driven hoisting engines (one for each seam) housed in a substantial building, a structural-steel headframe 90 ft. high, a steel and concrete bankhead, consisting of connecting bridges, an auxiliary dump building, and a main dump screen and picking-belt building provided with the necessary machines, electric motors, and other appliances which make up a surface equipment of this nature. It also involves the construction of a railway assembling and distributing yard, a blacksmith and car-repair shop, a warehouse and an office.

### WHEN COMPLETE WILL HANDLE 2,000 TONS A DAY

In the consideration of the general scheme, the size of hoisting engines, of all other machinery and of the various structures had to be based on not only immediate prospects but on future possibilities. For this purpose the future maximum output of the colliery was assumed as being 2,000 tons, or 1,000 tons from each bed. The attainment of this output, either from a mine-development or a market standpoint, probably is a matter of a few years' time, whereas a maximum of 1,000 tons is expected in the immediate future. The hoisting engines and house over them, the pit headframe and other elements had, therefore, to be arranged accordingly and equipment of sufficient size obtained to accommodate the larger output. In order to cut down initial cost, however, only half of the eventual main tibble, screen and picking-belt building, and half the



FOUR TRACKS TO BE GIVEN UP TO BOX CAR LOADERS

Two conveyor-belt loaders of the type shown have been installed by the Ottumwa Box Car Loader Co. One loads run-of-mine or screened coal and has a steel conveying belt, and the other, loading slack, has a rubber belt for that purpose.

\*Article entitled "The New Coal Raising and Screening Arrangements at Jubilee Colliery, Sydney Mines, N. S.," read before the Mining Society of Nova Scotia, Halifax, April, 1921.

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eventual equipment, or enough to handle only 1,000 tons per day, is now being constructed. Arrangements, however, are such that duplication of the present half can be readily accomplished when required.

The hoisting and bankhead facilities have been designed so as to provide, as far as possible, the best of equipment for handling the coal from pit bottom to bank, its classification and cleaning, and, of especial importance, its loading as desired into either hopper or box cars. Provision also has been made for the mechanical loading of slack into box cars, and facilities have been provided for readily bunkering the company's locomotives, supplying coal from bins for local purposes, and the disposal of "stone" or "material other than coal" from the mine and from the picking belts.

#### WORK NOW IN PROGRESS TO COST \$385,000

From this it follows that the new hoisting, screening, cleaning and loading plant, when completed, probably will have cost more money than usually is expended on similar equipment of the same capacity. Emphasis is laid on this consideration, inasmuch as the larger monetary outlay necessitated by the adoption of these special features may be criticised. In order to be prepared to sell all the coal produced from this colliery, however, whether screened sizes, run-of-mine or slack, and to dispose of it readily, either loading it into box or hopper cars, it was essential to provide present facilities as flexible as possible, so as to be ready for the time when these might become indispensable.

Work at present in progress involves an estimated expenditure of \$385,000. Excavations for foundations were commenced in October last. It was expected that the bankhead and other structures would be completed by April, but owing to various causes, such as promised deliveries not being fulfilled, the completion of the work has been unavoidably delayed.

The work of building is being carried on while the present bankhead is in operation. It is hoped that no stoppage of the colliery or reduction of coal output will occur while construction is proceeding. The change over from old to new equipment will be made during a week-end.

#### PRODUCTION COST TO BE LOWERED ONE-FOURTH

When in operation the new equipment will allow of the number of men employed being reduced by twenty as compared with the present force. It will overcome existing expensive upkeep of the old equipment and will considerably reduce the operating power cost. The present cost for labor, repairs, supplies and power in handling the coal from pit bottom to coal car should be reduced 25 per cent by the new equipment. This, it is estimated, will save \$36,000 per year.

Furthermore, as the number of men required for operating the new bankhead for an output up to 1,000 tons will be no more than are necessary for 700 tons, and as the electric-power charge for operating at the greater output obviously will not increase proportionately, the cost per ton of coal with 1,000 tons of output should be reduced by an amount equal to 35 per cent of the present cost of handling the coal from pit bottom to railroad car.

In order that this saving, or reduction in cost, may become a reality it is essential that every mine official conscientiously strive to carry out the intentions of the designers and dispense with any unnecessary labor,

not merely transferring the workman to some other point, except it be to the working face.

The various elements making up this installation can be classed under three heads, namely: The coal-hoisting equipment and building, the structural-steel headframe, and the bankhead, which includes the bank around the headframe, the connecting bridges, auxiliary dump building, and the main tippie, screen and picking-belt building, together with the equipment contained therein.

#### HALF THE COAL TO COME FROM EACH SEAM

The coal-hoisting equipment consists of two single-gear hoists built by the Vulcan Iron Works, of Wilkes-Barre, Pa., each designed so as to be capable of raising 1,000 tons of coal per day from its respective seam. These machines are duplicates except as to the size of the motors and as to the gear ratios, and the fact that one is arranged right- and the other left-hand. Each is driven by Westinghouse alternating-current motors of the wound-rotor type, built for hoist service, working from a 2,200-volt three-phase 60-cycle electric-power supply. The sizes of the motors serving the lower and upper seams are 550 hp. and 350 hp. respectively. The gears are machine-cut, of the heringbone type, and as they work in an oil bath, they will be practically noiseless. The drums are cylindro-conical, having a small diameter of 7 ft. and a large diameter of 10 ft.

In addition to a powerful main brake of the post type, each hoist is provided with an auxiliary band brake operating on the motor-pinion shaft. The function of this device is to absorb the inertia of the rotating parts of the motor and relieve the gears of unnecessary stresses. The two devices are so interconnected that when the main brake is applied, the one on the pinion shaft comes into action also. The latter is arranged for independent application as well.

#### RELEASE OF AIR CAUSES SETTING OF BRAKES

Upon the release of air within the cylinder of an auxiliary engine the main brakes are applied through the action of weights. The force with which these brakes operate is proportional to the degree of exhaustion of the air. The auxiliary engine also is provided with a device which automatically applies the brake in case of power failure, overspeed or overwind.

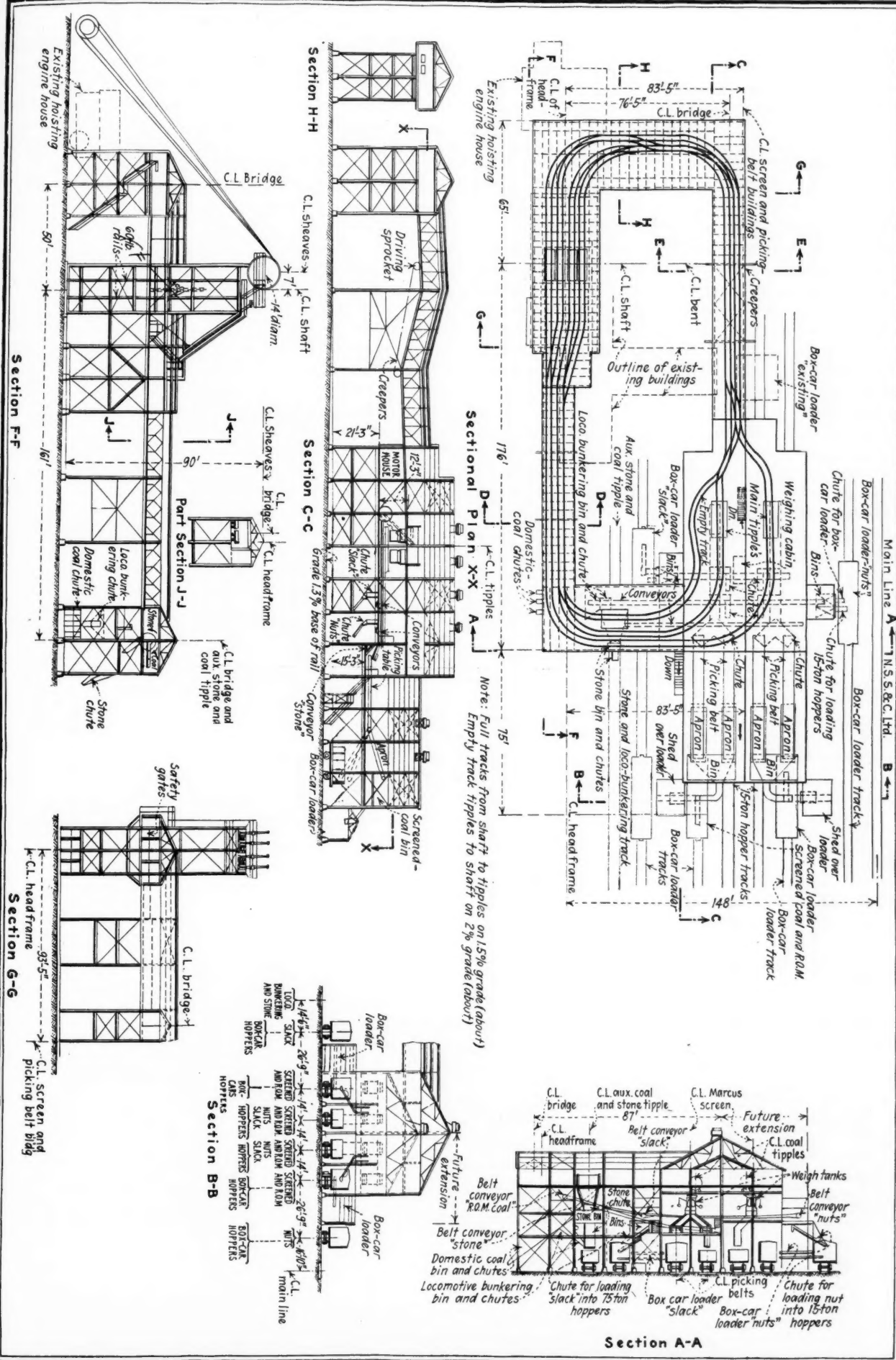
Speed of the hoist motor is controlled by varying the resistance in the rotor circuit. This is accomplished by the operation of a small master controller mounted on the hoist platform. The master controller actuates the motor through magnetic contactors, which are governed by suitable current-limit relays. Automatic acceleration is thus provided, which to a certain extent is independent of the hoisting engineer.

The safety features of these machines are such that the hoist cannot start the wrong way or overtravel in either direction. The brake will not be suddenly applied on power failure, but it will allow a full application of braking effect if required, when limits of travel are reached. The brake cannot fail because of worn shoes or the failure of the air supply to the auxiliary engine, or on account of grounded control circuits; the men will be hoisted or lowered at reduced speed.

As there are few levers to handle, an inexperienced operator cannot injure the hoist by improper manipulation, neither is it necessary for him to call for assist-



# PLAN AND ELEVATIONS OF THE JUBILEE BANKHEAD AT SYDNEY MINES, N. S.



ance or leave his station to reset the safety devices. These details tend to give the operator complete confidence in the hoist under his control and to afford a maximum of safety to the men being hoisted or lowered and to the winding apparatus. It will thus more than fulfill any mine law yet enacted covering such equipment.

#### COMPRESSOR AND HOIST UNDER ONE ROOF

The brick building in which this apparatus is being installed is 97 ft. 6 in. long and 39 ft. wide. It has been made sufficiently large to accommodate not only the present electrically-driven air compressor of 3,000-cu.ft. capacity but a future unit of the same size. The building is of substantial construction, well lighted and not unpleasing in appearance. Considering that this whole construction program was carried out in winter, the result attained is highly satisfactory. An overhead traveling crane is being built for erection purposes and for the handling of heavy machine parts when this becomes necessary.

The structural-steel headframe consists essentially of six built-up plate and angle columns, the tops of which support a platform whereon are mounted the four head pulleys. The columns are so placed about the mouth of the shaft as to form together with their framing and connecting bracings enclosures that are virtually continuations of the upper- and lower-seam

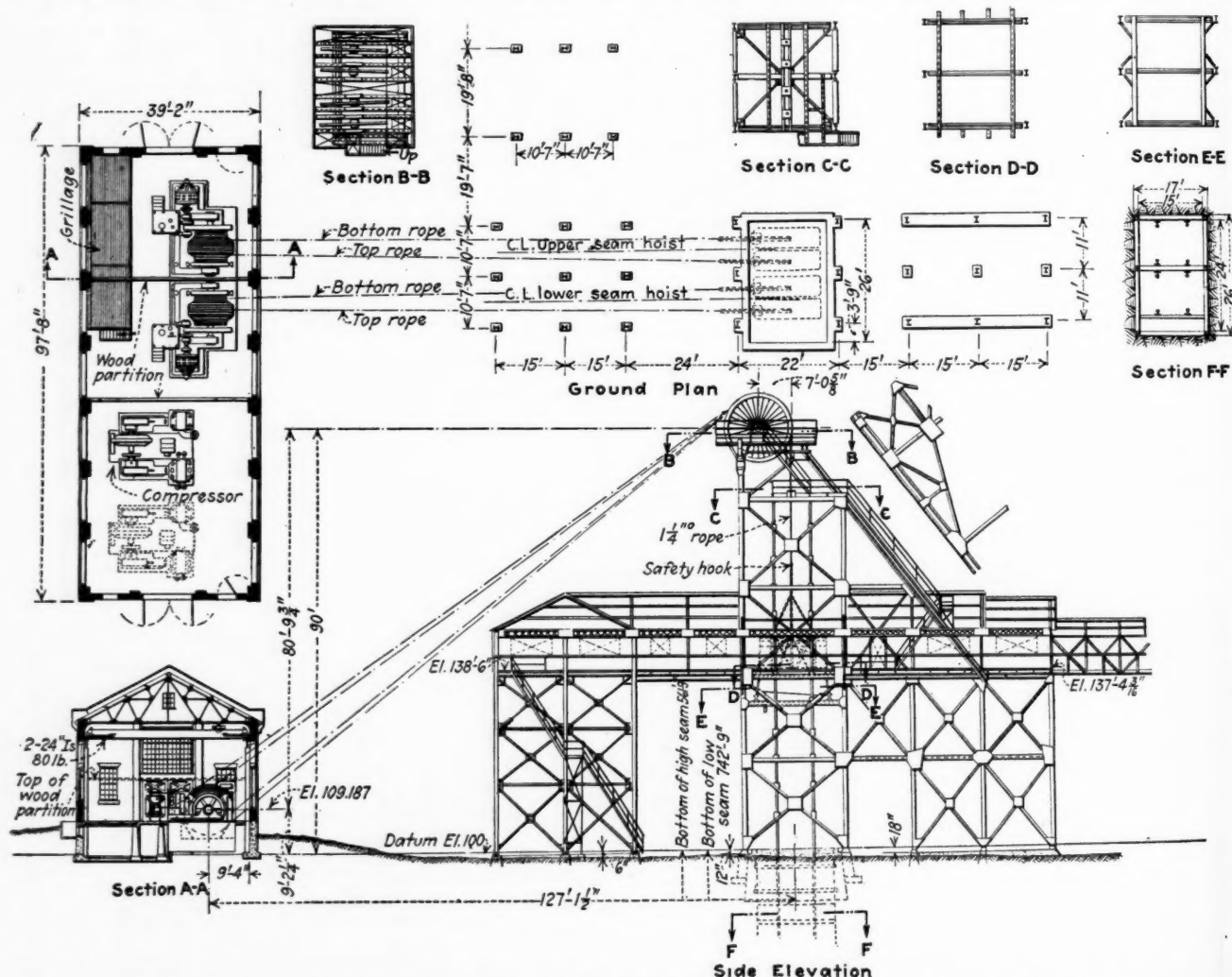
shaft compartments, in which the coal cages are guided and hoisted to the banking floor.

In the design of headframes the main difficulty is not to determine the strength of columns, struts and stays for resisting the bending, compression and tensile stresses, but to obtain the necessary stiffness and rigidity as well as the requisite stability of the whole structure with the least weight of material which will withstand the heavy loads suddenly applied, and as suddenly removed. All these considerations are affected by the loads, rapidity of acceleration and the height of structure.

#### TENSILE MEMBERS REPLACE BACKSTAYS

It is the common practice in building headframes to embody backstays to resist the pull of the ropes between the drum and head sheave. In the headframe under construction, however, "front" stays take their place. The lower portion of these members serve as building columns of the bankhead structure, and are anchored to solid concrete foundations. As a result the weight of this portion of the bank structure reduces to some extent the quantity of concrete in the anchorage needed to afford the necessary stability.

This departure from type was made in order not only to afford an uninterrupted passageway for the empty pit cars returning to the bank, but also to avoid complications arising from the fact that one of the present



PLAN AND ELEVATION WITH SECTIONS OF POWER HOUSE AND SHAFT HOUSE AT JUBILEE BANKHEAD

This headframe does not have a backstay but depends on tension to resist the pull of the hoist. It will be noted that the trestle is about 38 ft. above the ground. Only by providing runways at that elevation can sufficient height be obtained for dumping, screening and loading purposes. The headframe is 90 ft. high.



steam-driven hoisting engines was in such position as to preclude placing the backstay feet at the most advantageous point. This form of construction made it possible to reduce the total height of headframe, and, as tension members obviously may be made lighter in construction than compression members, it also made it feasible to reduce appreciably the weight and cost of the steelwork.

A system of beams has been installed for supporting the "safety" detaching hooks against overwind. Another set of beams also has been provided for the chairs or keps supporting the cages at the banking floor. A substantial stairway will be built leading from this floor to the upper platform which supports the head pulleys.

#### BUILD STEEL STRUCTURE ROUND TIMBER FRAME

As the new steel structure is being built around the present timber headframe and bankhead, erection will be none too easy. To facilitate construction each column is being made in sections. The total height of the headframe from surface to center line of head sheaves is 90 ft. and the estimated weight of the steelwork, including front stays, is 110 tons.

On being hoisted to the banking floor, which is 40 ft. above the ground, the two loaded coal cars contained in the cage move by gravity along a connecting bridge and through the "auxiliary dump building" to the "main dump house." The coal is here discharged by means of an automatic power-driven revolving tippie into two weigh tanks situated below the floor. The empties then continue their journey, moving down grade into a dip, from which a creeper, or car hoist, hauls them up a grade sufficiently high to allow of their return by gravity to the bank, thus making a complete circuit.

The weigh tanks into which the coal is dumped are each equipped with gates operated by air cylinders. After being weighed the coal is fed onto a horizontal screen of the reciprocating-conveyor type. This is supported on rollers and receives a slow forward and

a rapid return motion by means of a special driving gear.

This screen is built with three decks. The plates of the upper deck are provided with perforations of sufficient size to allow the nut and slack coal to fall through to the middle deck. This in turn is fitted with plates similarly perforated, except that the holes are smaller, allowing the slack coal to fall through to the lower deck.

#### SCREENED, NUT AND SLACK COAL ARE MADE

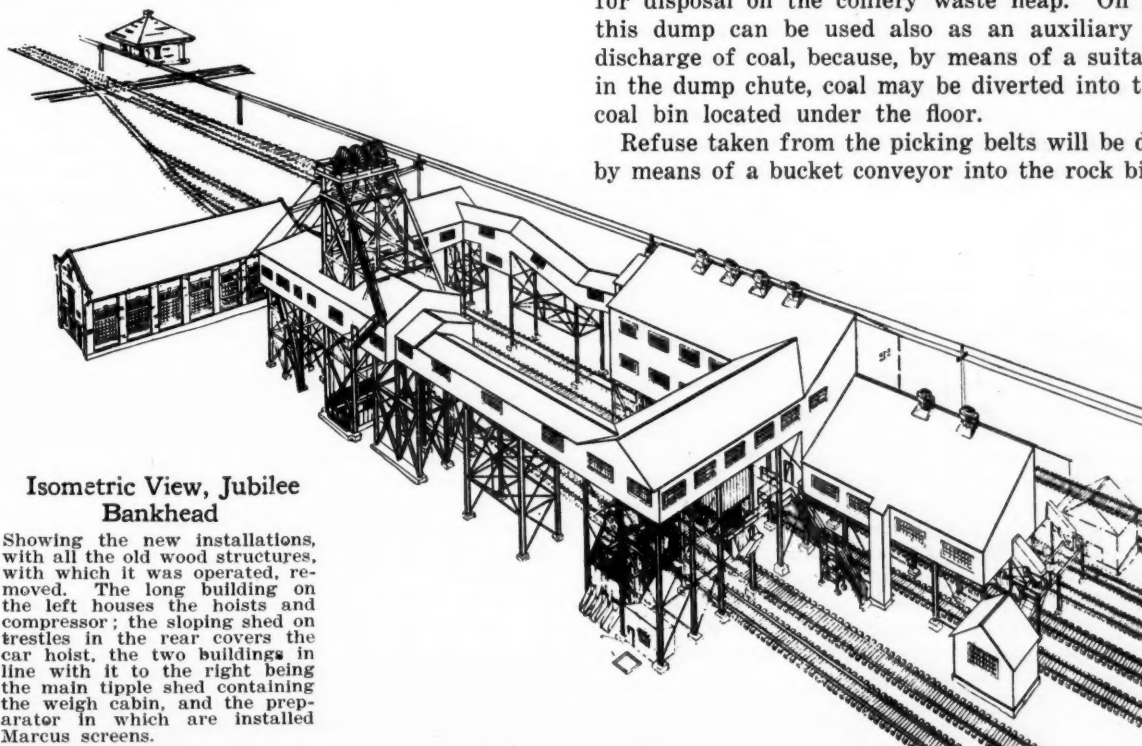
Thus the coal is classified into "screened" on the upper, "nuts" on the middle, and slack on the bottom deck. The screen is provided with the usual dead plates for run-of-mine coal and with suitable gates so that slack and nut may be diverted onto conveying belts or into chutes, as desired, thus giving flexibility in disposal of the products.

At the outer end of the screen a breeches chute diverts the run-of-mine or screened coal onto two picking belts equipped with the usual movable jibs. These are so arranged that when in the "up" position they discharge into a bin preparatory to their being loaded into box cars by means of a mechanical loader, and when "down," into hopper cars. Slack coal for loading into box cars, for which a mechanical loader is provided, is conveyed from under the screen on a rubber belt to a feeding bin. This is so arranged that hopper cars can be loaded when necessary.

As a market for nut coal is more or less a matter for the future, the conveying belt provided for this eventual purpose, for the present will serve for conveying small-size lump, nut or slack into a large bin located under the auxiliary tippie floor. Thence it can be drawn off for locomotive bunkering or for domestic and local use.

The revolving dump, located in the auxiliary building, is primarily intended for the disposal of rock from the mine, which is brought up the shaft in coal cars. This rock will be dumped into a special bin under the floor, whence it will be discharged into hopper cars for disposal on the colliery waste heap. On occasion this dump can be used also as an auxiliary for the discharge of coal, because, by means of a suitable gate in the dump chute, coal may be diverted into the large coal bin located under the floor.

Refuse taken from the picking belts will be delivered by means of a bucket conveyor into the rock bin under



Isometric View, Jubilee Bankhead

Showing the new installations, with all the old wood structures, with which it was operated, removed. The long building on the left houses the hoists and compressor; the sloping shed on trestles in the rear covers the car hoist, the two buildings in line with it to the right being the main tippie shed containing the weigh cabin, and the preparator in which are installed Marcus screens.

the auxiliary dump-house floor. Except the picking belts, which will both be driven by one motor, all parts of the mechanical equipment are to have their own individual drives. The motor actuating the screen mechanism is of 25 hp., that for the two picking belts 25 hp., each conveyor being driven by a 5-hp. motor. The countershafting is being arranged so that when the other half of the equipment is added, the picking belts and screen of the present half may be driven by the motor of the other.

For the mechanical loading of coal into box cars, two conveyor-belt loaders have been purchased from the Ottumwa Box Car Loader Co. These machines are practically identical except that the one for loading run-of-mine or screened coal is equipped with a steel conveying belt, whereas the other for slack coal is being furnished with a rubber belt. These two machines will each be operated by a 25-hp. alternating-current slipping motor.

#### POINT OF LOADING CAN BE CHANGED AT WILL

All these machines will be operated entirely by mechanism. They will permit of the loading of the coal near the center of the car, or out toward the extreme ends, and because they are able to deliver either close to the floor or high above it, coal may be placed in any desired position within the car. All the motions are power-actuated, only one man being necessary for loading the cars. These machines are each guaranteed to load at the rate of 150 long tons per hour.

The structural steelwork of the bankhead and head-frame is being fabricated by the Canadian Bridge Co. All columns, of plate and angle section, are supported on substantial concrete foundations. The floor system is composed of I-beams or channels. The trusses, purlins, bracing and girts are of angles, no thickness of metal being less than  $\frac{1}{4}$ -in. The total weight of the steelwork will be approximately 450 tons.

The floors are to be of reinforced concrete with a minimum thickness of 4 in., triangular-mesh reinforcement being used. That portion of the floor under the driving mechanism of the screen will be about 14 in. thick, in order to present a solid mass against the inertia of the reciprocating parts.

#### PLENTY OF VENTILATION WILL BE PROVIDED

The buildings will be covered on roofs and sides with 20- and 22-gage galvanized corrugated sheeting. Plenty of windows are to be provided, which as a rule will be made to slide back so as to give a full or part window opening at will. In addition to this, in those portions of the buildings where most coal dust is encountered—that is, over the main dump and the picking belts—Robertson patent roof ventilators will be fixed. Thus good ventilation is expected during the summer weather.

As the bankhead is built entirely of steel and concrete, and is therefore fireproof, no insurance on either buildings or equipment will be needed. This not only means a considerable saving in yearly premiums but insures against that loss in output which invariably takes place when a fire occurs on a bankhead constructed of wood.

It goes without saying that colliery bankheads are not usually pleasing sights. They may, however, be so made as not to be unsightly. Ruskin asserted that man has no more right to disfigure landscapes with unsightly buildings than he has to pollute the atmosphere with obnoxious smells.

Bearing this well-known pronouncement duly in mind, as well as the fact that Jubilee colliery is situated in the middle of the town of Sydney Mines, it has been the aim to erect an equipment that will be the equal of the best of its kind, not unsightly in appearance, and one in which both town and the owning company may, with reason, entertain pride.

### Trapper Who Fell Asleep and Was Hit by Passing Car Must Be Compensated

**A**N APPEAL by the company from an award of compensation in the case of John Saydock, of Wilkes-Barre, Pa., against the Delaware, Lackawanna & Western R.R. Co. has been dismissed in an opinion by Commissioner Paul W. Houck. The award was made by Referee Lewis, District No. 9, and his findings of fact and conclusions of law have been affirmed. The claimant in this case was a door tender. On Dec. 1, 1919, he opened the doors for a trip of cars, and after closing them he lay down near the tracks and fell asleep. Half an hour later the cars passed that way again and an oil box of one of the cars struck the claimant and injured him.

The basis of the appeal was that the claimant was not in the course of his employment at the time of the accident. The board holds, however, that the referee did not err in awarding compensation. The Compensation Act, it is pointed out, defines the term "injury by an accident in the course of his employment" to include any injury sustained while the employee is actually engaged in the furtherance of the business or affairs of the employer, or, even though the employee is not so engaged, any injury caused by the operation of the employer's business on the premises when the injury happens upon the premises occupied by the employer, the employee's presence thereon being required by the nature of his employment.

"Under this definition," the opinion concludes, "the claimant is entitled to compensation because it is not disputed

that he was injured on the premises of the employer, and the injury was caused by the operation of the employer's business thereon and the employee's presence on the premises was required by the nature of his employment. It was the duty of the employee to remain at the place where he was injured to open and shut the door and the act of falling asleep was nothing more than an act of negligence on the part of the employee, which, by the very terms of the act does not defeat his right to compensation."

### Want Breaker Silt Collected to Save Park

**W**ILKES-BARRE is complaining about the damage to trees and vegetation caused by the culm which is deposited on it at high water by Mill Creek into which flows the waste from the breakers of the Hudson Coal Co., the Lehigh Valley Coal Co., the individual coal firms known as the Healey Coal Co. and the Wolf Collieries Co., and an individual operator, John Conlon.

R. H. Buchanan, district superintendent of the Hudson Coal Co., suggests that the stream be straightened to wash away the culm, but this the city does not want to do as it would mar the beauty of the park and destroy many improvements. Urged that the washeries close during the floods, he said that this would not remedy the situation much for the low lands above the park were full of culm and the flooding of these lands would bring this culm down stream. Silt retention is as important a problem as silt utilization, and the silt may have to be prepared for market as the cheapest means of getting rid of it.





HAULING UNUSUALLY HEAVILY BUILT-UP CARS TO THE WEIGH SCALES AT AN OHIO MINE

## Bureau of Standards Is Testing Scales at Mines\*

More Are Found to Give Overweight than Underweight—Testing Squad Has Automobiles Each with One Ton of 50-lb. Standard Weights—Duty of Government to Fix Standards of Weight Involves Duty to Inspect Them

BY L. A. FISHER†  
Washington, D. C.

THE U. S. Bureau of Standards commenced to investigate mine scales in August, 1917, in response to a request from the authorities in Maryland who were confronted with the prospect of an immediate general strike as a result of a dispute as to the correctness of certain mine scales. The nation, at that time, had great need for all the coal that could be mined and the local authorities were naturally alarmed at the possibility of a prolonged shut-down of the mines. It appeared that the miners had lost all faith in the ability of the State to correct conditions existing and insisted upon tests by the Federal Government which they held would be free from local influences and fair to both sides in the controversy. In this emergency the State authorities turned to the Bureau of Standards. While there were no funds available for this special purpose, the case was of sufficient importance to warrant the use of our reserve funds, and one of the best men in Bureau was detailed to the work.

The result of this particular investigation made with a ton of 50-lb. test weights showed that the miners had just cause for their complaints, as many of the scales gave readings which were too low. However,

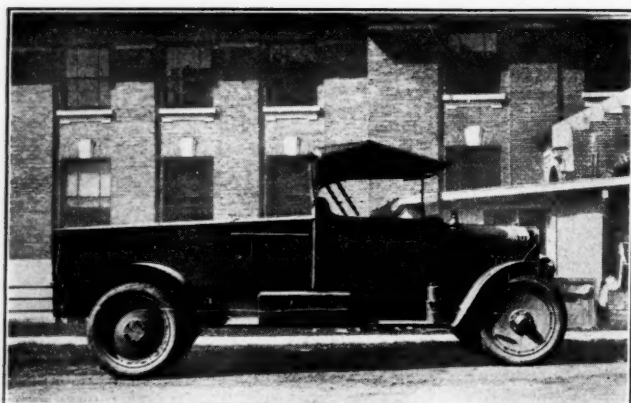
as soon as the scales were declared by the Bureau to be in order, and operating correctly, the miners forgot their grievances, those who had ceased work returned to the mines, and the incident was closed.

Subsequently complaints were received from other sections of the soft-coal regions and to meet these demands the Bureau asked for and received from Congress an appropriation of \$15,000 to carry on mine-scale investigations.

As soon as the funds were available, the Bureau purchased two motor trucks equipped with special features necessary for the sure and rapid transportation of the field party, test weights, and other apparatus. The trucks were obtained from the War Department, and were built on a contract for the Aviation Service. They are of the so-called "Light Aviation" type, now commonly seen in the Public Roads Service, as Congress has since then authorized the transfer of a large number of these trucks to this service. They are designed and built to obtain a combination of speed, power, and endurance. Special features embodied are a two-ton Continental Motor, on a one-ton G. M. C. chassis, solid disk front and rear wheels, double pneumatic tires on each rear wheel and special hubs and extra wheels designed to minimize road delays on account of tire trouble. Bodies were built to afford convenient means of hauling and handling 2,400 lb. of test weights in 50-lb. units, sealers' kit, other necessary testing appa-

\*Abstract of paper presented at Weights and Measures Conference held at the Bureau of Standards this spring and entitled "Mine Scale Work of the Bureau of Standards."

†Former Chief of Weights and Measures Division, Bureau of Standards, recently deceased.



BUREAU OF STANDARDS MINE-SCALE TESTING CAR

Car carries two men, one the engineer in charge and the other a driver and mechanic who assists in the testing work. Room is provided for weights, sealers' kits and other testing apparatus with the baggage of the two men.

ratus, and the baggage of the field party who make the truck their chief means of transportation.

The field party of two consists of an inspector or engineer in charge, and an assistant who acts as driver-mechanic, assists in the testing work, and performs other duties in his spare time. The inspector selects territory, arranges and directs details of tests, makes adjustments when practicable, and advises regarding weighing conditions and features of installation. He must play a ticklish role in a situation fraught with continual discontent.

The method of test is not widely different from that of testing an ordinary platform or wagon scale. Coal tippie scales are usually of 3, 5 or 10 tons capacity. A test to capacity by applying test weights is impracticable, as it is impossible to transport and handle more than one ton of test weights with efficiency. Loads of one-fourth, one-half, and one ton are applied and the errors and multiplication at those loads determined. The actual weight of an empty car is determined by the method of substitution and the weights then loaded into this car.

This gives a test load usually in the neighborhood of two tons, depending of course upon the weight of the car. A car full of coal is then applied and weighed at each end and in the center of the deck to develop sectional errors. Sufficient test weights, usually 500 or 1,000 lb., are added to determine the multiplication, from which the actual weight of the car of coal is computed and compared with the weight indicated by the normal operation. The car is then dumped and weighed empty. The weight of coal thus obtained is compared with the weight which would normally be credited to the miner on the tippie sheet.

The procedure is similar for a hopper scale, except, of course, the necessary manipulation to determine the weight of empty cars. By simply passing the coal into the hopper a test load can be built up by the method of substitution to any desired value.

Up to April 1 of the present year, about 450 scales had been tested at different coal tipples in Maryland, West Virginia, Ohio, Kentucky, Tennessee, and Georgia. Of this number about 63 per cent failed to pass a tolerance of 0.40 per cent of the applied load of 4 lb. per thousand, which will be recognized as being twice the tolerance applied to railroad-track scales and other commercial scales. Seven per cent had errors of 50 lb., 48 per cent had errors in excess and 52 per cent had

errors in deficiency, from which it appears that on the whole little or no attempt is made to short-weigh. Since April 1 our trucks have been working in the State of Indiana.

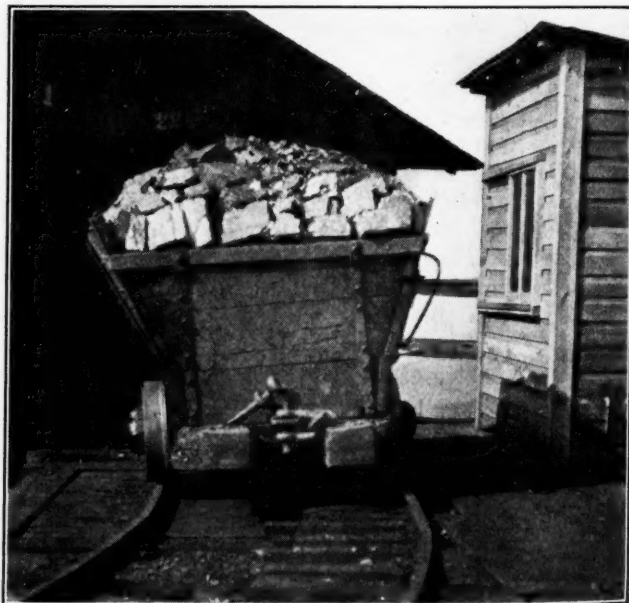
As a result of the accumulation of information, the Bureau has drawn up tentative specifications for coal-tippie scales and their installation, but they are not yet ready for publication.

The purpose of the Bureau in this as in all testing work is to improve the accuracy of the scales, their installation and general weighing condition. It desires to do this for the benefit of the operator and the miner. The Government should not permit false weights, be they intentional or accidental, any more than it should permit the counterfeiting of money. False weights should be penalized by laws comparable in their severity to those relating to coinage. Nothing could conceivably give the thousands of foreigners working in the mines who cannot speak English so false an impression of our institutions as to find themselves at the mercy of some dishonest mine superintendent.

In the mining industry where the wages are directly determined by weighing the output of the miners, all doubt as to their correctness should be removed. With this source of misunderstanding and suspicion removed, there are still enough sources of misunderstanding left to satisfy the most contentious individual.

The annual appropriation for this work is \$15,000. The number of employees is not definitely fixed but varies from time to time as the exigencies of the work and of the funds warrant.

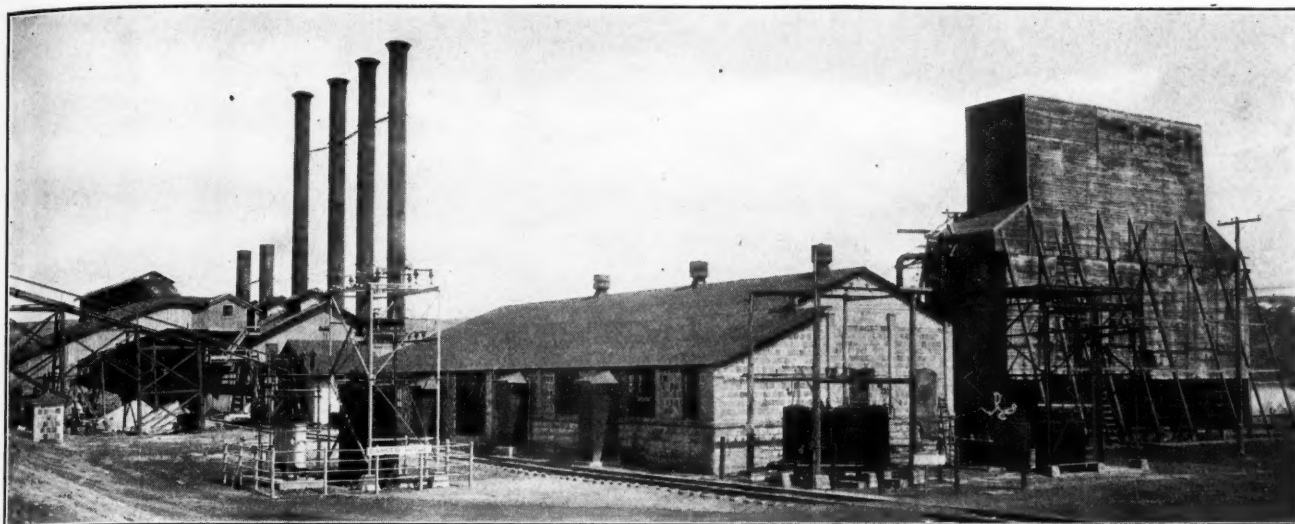
There can hardly be any difference of opinion as to the advisability and desirability of the Federal Government taking up duties prescribed to it by the Constitution of the United States, which gives it authority to fix the standard of weights and measures. This makes it the solemn duty of the Government not only to adopt standards but to see that the adopted standards are used in trade. Nothing less than this could constitute fixing the standards. But this does not mean that the Federal Government should be the exclusive agency in enforcing the use of the standards.



TRACK CURVES IN CROSSING MINE SCALES

Conditions such as these, as also unsteady foundations, are not conducive to satisfactory weighing.





BOILER HOUSE, TURBINE ROOM, COOLING TOWER AND STEP-UP TRANSFORMERS AT ROCK SPRINGS, WYO.

## Union Pacific Coal Co. Discards Many of Its Local Power Plants for a Central Station at Rock Springs, Wyo.\*

Electric Energy Has Been Used in Mining in This District for Almost Thirty Years—Generating Equipment Has Steadily Increased in Capacity Until the Main Power Plant Is Now Practically a Central Station

By D. C. MCKEEHAN†  
Rock Springs, Wyo.

**E**LECTRIC power was introduced into the Rock Springs field in the year 1892. The initial installation was an engine-driven generator and a 9-ton haulage locomotive using 500-volt direct current. Reference to this locomotive, which is still in use, was made in the issue of *Coal Age* for Feb. 24, 1921. Taking into consideration the size of the field the conversion to electric operation has been notably complete, there being no compressed-air machines in primary service and but one steam-driven hoist, that at No. 10 Mine. This machine is located within 50 ft. of the boiler room of the present power plant.

Two 8-ton haulage locomotives were installed in 1896. They are still in use. These mines used the pioneer types of electric cutting and drilling machines. The extensive use of electric power began in 1900, when four 400-kw. 500-volt direct-current engine-driven generators were installed. These were cross-compound machines and operated non-condensing.

By 1910 the mines had developed main haulage entries several miles in length, and the working territory had increased to about six square miles in area. In order to transmit adequate power to the working face it was necessary in various parts of the mine to supply energy from motor-generator sets which supplemented the power furnished by the engine-driven generators. Power for these motor-generator sets was supplied by a 300-kw. high-pressure non-condensing turbo-generator delivering 2,300-volt 60-cycle three-phase current. This marks the beginning of the use of alternating current for mining purposes.

In 1913 new mines were being developed in Reliance, seven miles distant. Accordingly the main power plant was enlarged to accommodate a 750-kw. low-pressure condensing turbine, utilizing the exhaust steam from the cross-compound engines and the 300-kw. turbine. Transformers were installed for supplying Reliance with power at 13,200 volts.

In the course of time the old engines began to dismantle themselves—by throwing various pieces, such as cylinder heads, about the building, damaging walls and switchboards, thus creating a general feeling of unrest among those who were engaged in power production. The limitations of the old engines, which had given admirable service for ten years, were therefore recognized.

With these engines removed it became questionable whether enough exhaust steam could be obtained, and in 1915 a 1,000-kw. high-pressure condensing turbine was installed in order that more general use might be made of motor-generator sets for the direct-current supply. The plant at that time contained units of 1,000 kw., 750 kw. and 300 kw., in alternating current, supplemented by three of the 400-kw. engine-driven generators (one having been scrapped). This was considered sufficient capacity for some time to come.

At Superior, twenty miles from Rock Springs, five mines were opened about 1910. The power was supplied from a local plant containing four 300-kw. 2,300-volt alternating-current generators and two 300-kw. 250-volt direct-current generators. By 1917 this plant was still adequate to carry the load, but bad water caused an excessive expense in the boiler room, and it was decided to abandon the Superior plant and transmit power from Rock Springs.

\*Article entitled "Growth of the Electric Power System of the Union Pacific Coal Co., Rock Springs, Wyo.," presented at the June 30 session of the Rocky Mountain Coal Mining Institute.

†Chief engineer, Union Pacific Coal Co.

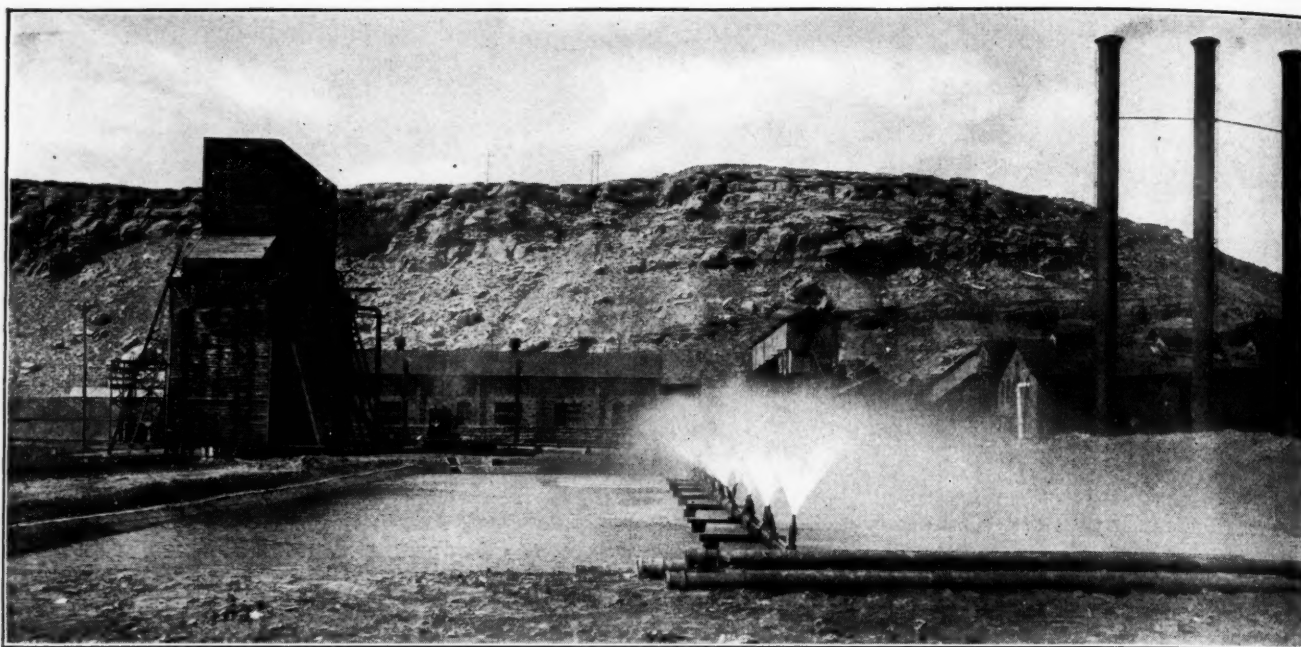


FIG. 1. COOLING TOWER, TURBINE ROOM, NO. 10 TIPPLE AND BOILER HOUSE OF UNION PACIFIC COAL CO.

In the foreground are the sprays for the condensing water, for the reception of which a concrete reservoir has been provided. The cooling tower was built many years ago. The climate being extremely dry, as can be imagined from the absence of vegetation, there should be rapid evaporation with speedy and efficient cooling of the water.

To take care of this additional load a 2,500-kw. turbine had to be installed at the latter point. This machine was installed in 1918, its installation making necessary a revamping of the whole plant. The old engines and generators were junked, the 300-kw. turbine was transferred to the Cumberland mines, and the 750-kw. turbine was sold. The old frame building was razed, and one of steel and hollow tile erected.

Fig. 1 is an exterior view showing the present turbine plant, concrete spray pond, cooling tower, boiler room and No. 10 mine tippie. Fig. 2 is an interior view, showing turbines and switchboard. Alteration of certain machines to electric drive and an increasing load soon required another 2,500-kw. turbine, so that today the plant contains the following turbo-generators: One 1,000-kw. unit installed in 1915, one of 2,500 kw. installed in 1918 and one of 2,500 kw. installed in 1920.

The above generators are 2,300-volt 3-phase 60-cycle machines, and the entire plant is rated at 7,500 kva.

Jet condensers are employed in conjunction with steam-driven reciprocating vacuum pumps. Two of the circulating-water pumps are driven by 2,300-volt synchronous motors and one pump by a 2,300-volt induction motor. One of the 2,500-kw. machines is fitted with a direct-connected exciter for starting, two 40-kw. 2,300-volt synchronous motor-generator exciters serving for normal running. A General Electric type F-8 regulator keeps the voltage constant.

Aluminum-cell lightning arresters are connected directly to the buses. A 12-volt storage battery provides emergency lighting. The connected load is 16,000 hp. The largest hoists at these mines are a 600-hp., a 500-hp., a 400-hp. and a 250-hp. machine. In addition to these are eight hoists ranging from 100 to 150 hp.

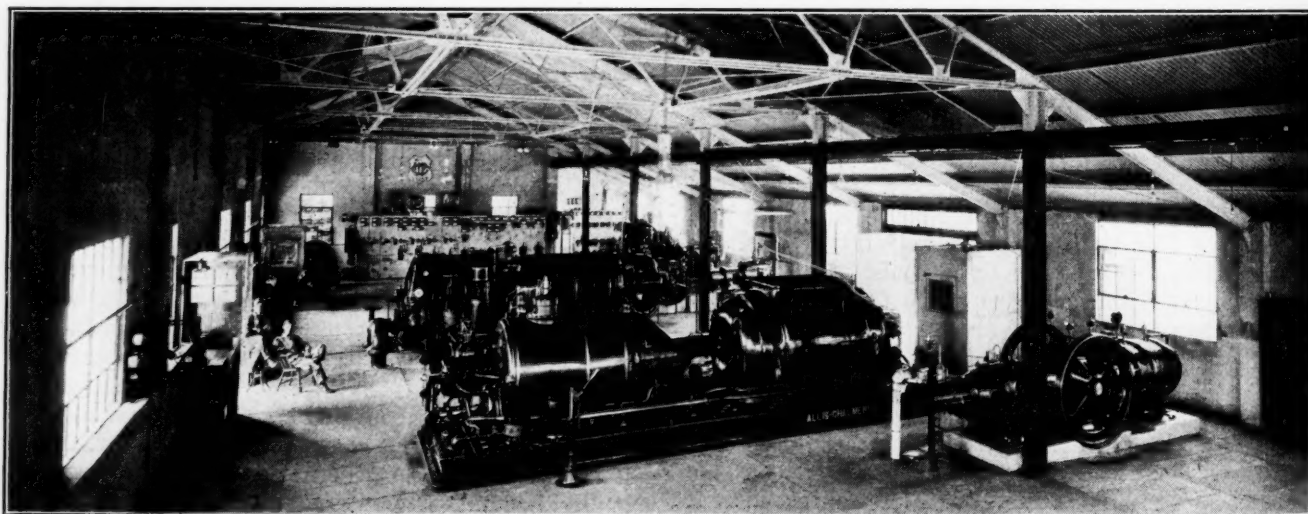


FIG. 2. INTERIOR OF TURBINE ROOM SHOWING TURBINES AND SWITCHBOARD

One 1,000-kw. and two 2,500-kw. turbo-generators are installed in this plant. They generate 2,300-volt 3-phase 60-cycle current. The entire plant is rated at 7,500 kva. One of the 2,500-kw. machines is fitted with a direct-connected exciter for starting. Two 40-kw. 2,300-volt synchronous motors serve as exciters for normal running.



From this list it may be seen that the plant is subject to severe demands for short intervals. Two of the 250-hp. hoists operate cages in vertical shafts, all the others serving on slopes. The larger hoists are operated under either contactor or liquid-rheostat control.

In all seventeen mines are supplied with energy. The sustained peakload on the plant is 5,000 kw.; the hourly output for the day load varies from 3,400 to 3,900 kw.-hr. For the past year this load has been carried by the 2,500-kw. and the 1,000-kw. generators. Besides carrying a 50-per cent overload on peaks, the machines at times deliver more kilowatt-hours per hour than their nominal rating. They can do this because the power factor of the plant is kept close to unity. Many of the motor-generator sets are driven by synchronous motors, carrying leading current at light load and so adjusted that they receive current at unity power factor at full load.

Current for local distribution as well as that for mines in the vicinity of the plant is supplied at 2,300 volts. One 13,200-volt line serves Reliance, E. Plane, and a remote part of Rock Springs mines as well as the development at Gunn. A 33,000-volt line supplies Dines, Winton and Superior. At the mines the distribution beyond the step-down transformers is at 2,300 volts.

The boiler room contains twelve Babcock & Wilcox boilers with a total rated capacity of 3,384 hp., fitted

with chain-grate and type E stokers and induced-draft fans. Before long all the boilers will be supplied with superheaters providing 100 deg. of super-heat. Slack coal is burned exclusively, a conveyor delivering the coal from No. 10 mine tipp'e direct to storage bins in the boiler room.

Fans are both motor- and steam-driven. One turbine-driven and one motor-driven centrifugal pump, supplemented by duplex machines held in reserve, supply the feed water. Boiler feed and in fact all water for operating the plant is secured from a series of wells, located about one mile from the plant. An air lift is used to raise the water about 200 ft. to the surface, after which it is forced into tanks by motor-driven plunger pumps.

This well water is quite "hard," but the mud and scale it forms in the boilers is easily removed without the use of compound. Feed water is taken from the cooling pond and introduced into the boilers without softening treatment. Usually the "make-up" water for the system is introduced into the condensers in order to obtain the slight benefit of its lower temperature.

Five turbo-generators have been installed in a period of ten years and it is doubtful if even yet the plant has sufficient capacity to take care of the field's requirements for more than another year. This installation has furnished the necessary power to mine 4,000,000 tons of coal in one year.

## Steel Mine Car Designed to Suit Anthracite Conditions

Mine Car May Be Loaded Underground by Hand or By Chutes or on the Surface by a Shovel—Such a Car Must Be Unusually Strong and of Large Capacity

BY DEVER C. ASHMEAD  
Kingston, Pa.

**C**ONDITIONS under which a mine car must work should determine its size and details of construction. In the anthracite field these governing factors vary widely from those encountered in the bituminous region and as a result the general conformation of cars used in the two localities shows equal divergence. The anthracite car is as a rule higher than that found in the bituminous fields, as the beds in which it is called upon to operate are comparatively thick. The capacity is, of course, other things being equal, proportional to the height.

Conditions of loading in the two regions may be entirely different, for in the anthracite field if steep-

pitching beds are being worked the cars may be run under chutes. In the bituminous fields as a general rule mine cars are loaded only by hand and are not subjected to heavy loading stresses. As much stripping is being done in the anthracite region mine cars are frequently employed above ground either for removing coal from the strip pit or in hauling away spoil. In either case they may be loaded by steam shovel which is, of course, much more severe on the car than hand loading.

At the Locust Mountain Coal Co.'s operation near Shenandoah, Pa., conditions vary so much that the cars are loaded by hand in certain portions of the mine and

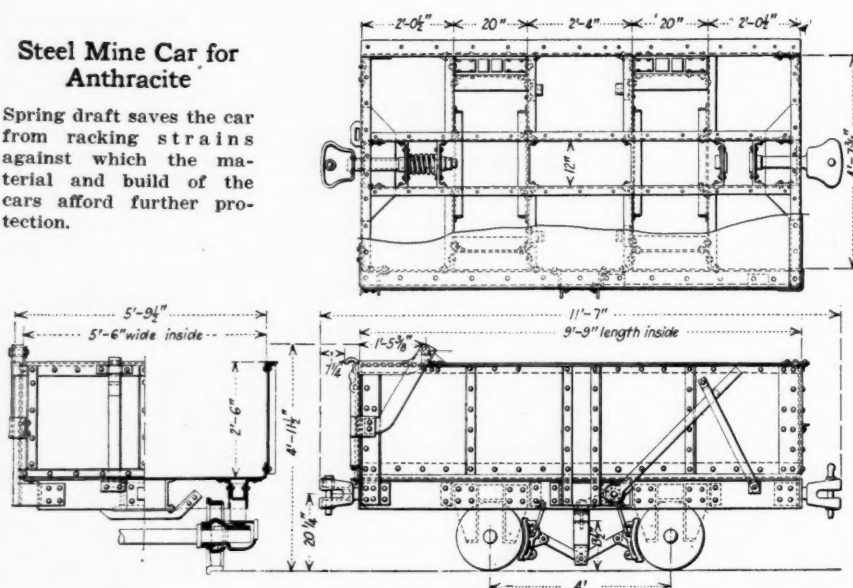
### Mine and Powder Car

Used at operations of the Locust Mountain Coal Co. Mine car will hold 134 cu.ft., level full, though gage is only 36 in. Its height is only a trifle under 5 ft.



### Steel Mine Car for Anthracite

Spring draft saves the car from racking strains against which the material and build of the cars afford further protection.



in others are filled from chutes. This company also operates extensive strippings. It would, of course, be inconvenient to provide a different type of car for each variety of service and it is necessary as a result to build the cars of such a design that they will meet all conditions encountered. But though there is room in the underground workings for a high car, yet it must not be so high as to render hand loading difficult. It must be strong enough to withstand the shock of coal falling from a chute, as well as the rough usage to which it is subjected in the strip pits when loaded by steam shovel.

In order that it may possess the necessary strength such a car is unavoidably heavy and as a result must be so designed that it will not readily leave the track. Furthermore, rolling friction must be reduced as far as possible. To lessen wear and tear also, it is advisable to provide such a car with brakes instead of depending upon spragging as is customary in many anthracite collieries.

At the operation above mentioned the car employed has a capacity, level full, of 134 cu.ft. The inside dimensions are:—Length, 9 ft. 9 in.; width, 5 ft. 6 in., and depth, 2 ft. 6 in. The over-all dimensions are: Length, outside to outside of bumpers, 11 ft. 7 in.; width, 6 ft. 2 in.; height, 4 ft. 11 1/2 in. The height of the top of the side boards is, however, only 4 ft. 6 in. The wheel base is 4 ft. and the track gauge is 36 in.

#### DRAWHEADS ARE FURNISHED WITH SPRINGS

In external appearance this car is strongly suggestive of railroad equipment of the gondola type. The framework is entirely of steel, the sides and bottom being strengthened and braced with angle iron. The drawheads are spring-mounted, stress upon the body of the car being thus reduced. Springs also are employed above the journal box to reduce the jolting which rough track will cause and the stresses incident thereto. The springs on the drawhead and journal boxes, as well as the long wheel base render the car not only easy riding but enable it to hold the track much better than if these springs were omitted and the wheel base made short.

Brakes are rather unusual in the anthracite field, but their employment on a car of this size and weight renders the wear and tear much less than it would be if sprags only were employed. Furthermore, sprags

tend to cause flat wheels and excessive wear upon the flanges so that in time a wheel thus worn will tend to climb the rail, and consequently the car that it supports is liable to derailment.

Two different types of trucks are employed. These use the Hyatt-Fleming and the American Car & Foundry roller-bearing wheels, respectively. Both types have given excellent satisfaction. The use of either reduces rolling friction which is highly necessary in a car of this size and weight. The cars themselves were built by the American Car & Foundry Co.

An extremely simple yet effective device is employed for holding the car door closed. This consists of a steel locking bar working vertically along the endgate and fitting into a suitable hole in the bumper. To open the door it is only necessary to raise this bar about two inches. The dump in the breaker is so arranged that a hook on the end of the vertical locking bar engages a crane, which in this case is merely a horizontal bar, and as the car tilts forward to discharge its contents the endgate is first unlocked and then raised.

All in all this car satisfies the conditions imposed by the operation where it is used. It is of rugged construction, and consequently the repairs are low. It may be used effectively in any one of the many diverse workings, so that several distinct types of car are not required. Rolling friction and consequently draw-bar pull is reduced to a minimum. Its large capacity lessens the number of car loads necessary to transport a given output. It is exceptionally easy riding and consequently holds the track much better than the ordinary rigid or semi-rigid car. And, lastly, the brakes obviate the wear to which cars are subjected when sprags are used exclusively.

### Thirty Millions in Compensation Paid Workmen in Pennsylvania

SINCE the Workmen's Compensation Board has been in operation in Pennsylvania, a period of five years, \$28,712,768 of compensation has been paid out, according to figures just tabulated by the board. During a portion of 1916 and the year 1917, \$7,247,196 was paid through the board; in 1918, the payments were \$4,412,881; in 1919, \$6,039,076; in 1920, \$7,001,197, and during the first six months of 1921, \$4,012,412.

During the five-year period the awards of compensation for fatal injuries have aggregated \$30,075,765. The amount actually paid out for such compensation has been \$8,448,859 and the disability compensation paid, \$20,263,903.

The total amount awarded for permanent injuries during the five years was \$9,154,075 and the amount already paid, \$5,314,880. During this period the board has awarded for the loss of legs, \$936,576; the loss of arms, \$745,345; loss of hands, \$2,071,955; loss of feet, \$976,227; loss of eyes, \$3,983,868 and miscellaneous, \$440,104. These awards are for the loss of 501 legs, 386 arms, 1,286 hands, 671 feet, 3,210 eyes and there were 112 miscellaneous accidents.

There were 15,212 fatal accidents reported, 3,067 of permanent disability, 1,048,119 of temporary disability, making a total of 1,066,398 accidents. Agreements were approved in 11,824 fatal cases, 6,009 of permanent disability, 337,478 of temporary disability, or a total of 355,311.



## Gallup-American Is Erecting Plant with A Skip Hoist and Overturning Cages

MUCH progress has been made in the construction of the new mine of the Gallup-American Coal Co., located near Gallup, McKinley County, N. M. On Aug. 1 the main shaft had been sunk to a depth of approximately 500 ft. This shaft is concrete-lined, rectangular in section and measures approximately 9 x 20 ft. 8 in. The coal at this shaft is 764 ft. from the surface.

The auxiliary shaft has been sunk to practically the same depth, is concrete-lined throughout, is rectangular in section and measures approximately 10 ft. 6 in. x 25 ft. 3 in. The main shaft will be equipped for skip hoisting and two overturning cages in balance will be used at the auxiliary shaft during the development period and for the hoisting of men and material at all times.

The main-shaft tippie is equipped with pendulum-hung shaker screens, loading booms, picking tables, etc., and all small coal will be sent by belt conveyor to a bin for loading in railroad cars or into hoppers of the power plant. The hoists at both shafts are to be electrically-operated by power furnished from the new power plant now under construction, as shown in the foreground of the illustration.

The steel for the auxiliary tippie has been erected and that for the main tippie is being fabricated, and the schedule provides for its erection in the early autumn. All the buildings are fireproof, of brick and concrete, with steel sash and steel trusses, purlins, etc., in the roof. The brick work has been completed on the shop building, and brick are now being laid for the wash and hoist houses.

Four 400-hp. Heine water-tube boilers which will generate the steam for the engines have been delivered. Alternating current at 2,300 volts will be generated to furnish power for the new as well as the existing operations, and small coal and crushed refuse will be burned under the boilers on Harrington-type stokers. The smokestack, now under construction, will be of concrete, 259 ft. high above foundations and 10 ft. in diameter.

A spur has been constructed to the Santa Fe at Gallup, and work is progressing on storage tracks. A

number of the cottages, rooming houses, etc., for the new town site, shown in the upper left-hand corner of the picture, have been completed and others are under way.

The plant has been designed throughout by the Allen & Garcia Co., engineers, Chicago, for an expected output of approximately 5,000 tons per 8-hour day. It is hoped that coal can be hoisted from the auxiliary shaft before Jan. 1 of next year, and the schedule provides that the entire surface installation and bottom loading stations will be completed in the spring of 1922.

## Fish Warden Wants Mine Water Purified

MINE drainage into the tributaries of the Susquehanna River is blamed for the killing of fish, according to J. P. Albert, chief warden of the State Department of Fisheries of Pennsylvania. He has just completed an investigation of the river and its tributaries from Harrisburg northward, and filed a report with N. R. Buller, State Fish Commissioner.

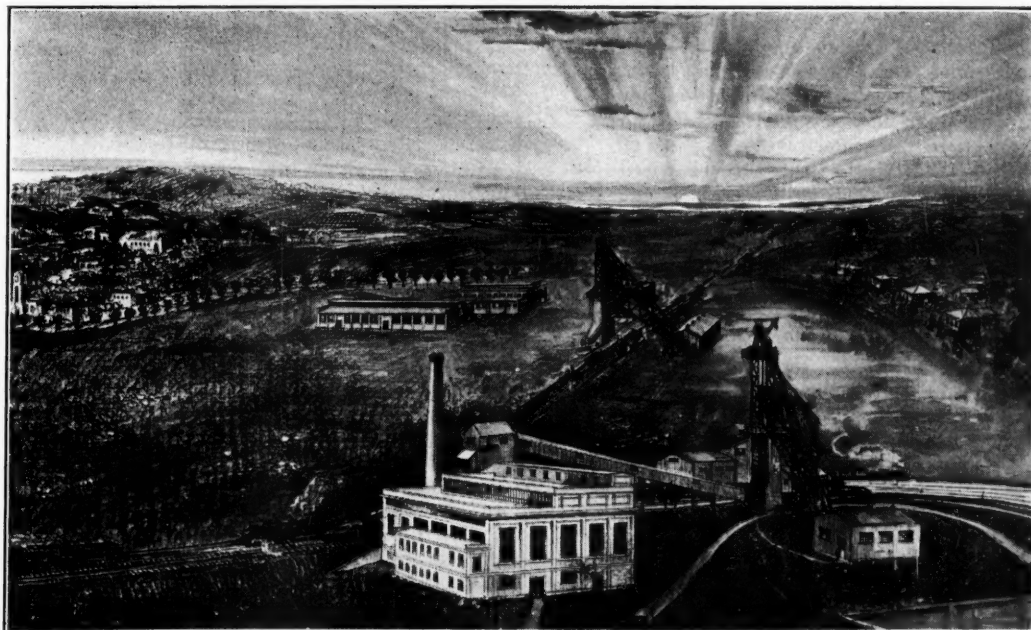
Oil and tar were discovered coming from sewers at Williamsport, and industrial plants both at that city and at Lock Haven discharge pollution into the stream, but much of the waste heretofore poured into the river by powder plants at Emporium and by tanneries is now filtered. Streams along which mines were opened during the past few years were found to be filled with sulphur water and the warden says that many fish have been killed in consequence.

The report regrets that the department does not have the advantage of stronger legislation against the pollution of streams. According to court decisions, the department has no control over mine water, Mr. Albert adds, and in conclusion he says that unless some method is found to eliminate drainage of mine water direct into the streams, little progress in the saving of fish can be expected. Most of the pollution comes from bituminous mines along the West Branch.

FALLING PROP CAUSED CANCER AND COMPENSATION IS GRANTED.—Commissioner Jarrett in the appeal by the defendant from an award in the case of John Grobuskie against the Shipman Coal Co., Shamokin, awards the claimant \$12 a week from April 29, 1920, to June 7, 1920, with an additional award for medicine and hospital services. The claimant in this case on April 10, 1920, was employed by the defendant at its Colbert Colliery, Coal Run, Pa., at timbering. A prop fell over and struck him on the face. A cancer quickly developed and this was later removed at a hospital.

### New Gallup-American Plant

Now under construction. On the left is the village and in the center rear-ground the wash house and shop building, the auxiliary-shaft head-frame with overturning cages and the hoist house for this shaft. In the foreground is the power house, conveyor to boiler bins, tippie and main-shaft headframe and its hoist house. On the right in the foreground is the pond for the condensing water.





# Problems of Operating Men

Edited by  
James T. Beard



## Applying New Methods in the Mining of Coal

New Systems of Mining Involve Great Financial Risk and Must Be Viewed from Every Possible Angle. Slabbing of Long Rooms While Adapted to Improved Machinery Presents Difficulties in the Extraction of Pillars

HAVING read with much interest the article by Carl Scholz, *Coal Age*, Apr. 14, p. 661, and the letter discussing its merits, by W. H. Luxton, June 16, p. 1083, I desire to add a few thoughts that they suggest.

The aim in each of these articles is to provide long working faces, while affording ample protection to the men, maximum recovery of coal and facilities for handling cars and machines at the working face. In addition to these items, also, there must be considered ventilation, drainage and practical grades for handling cars and hauling coal.

We all recognize the value of a system that will attain the objects just mentioned. Coal men are often accused, however, of being over-conservative in the matter of adopting new systems and methods of mining. In their defense, it should be remembered that the trial of most new methods involves a certain financial risk that must be assumed by the operator who makes the attempt.

### TRYING OUT NEW SCHEMES APT TO PROVE EXPENSIVE

Untried methods and systems must be viewed from every angle before they can be put to the practical test in the mine, or the tryout may be a costly one. It is for this reason that I am taking the liberty of offering a few comments on the methods suggested in the articles mentioned.

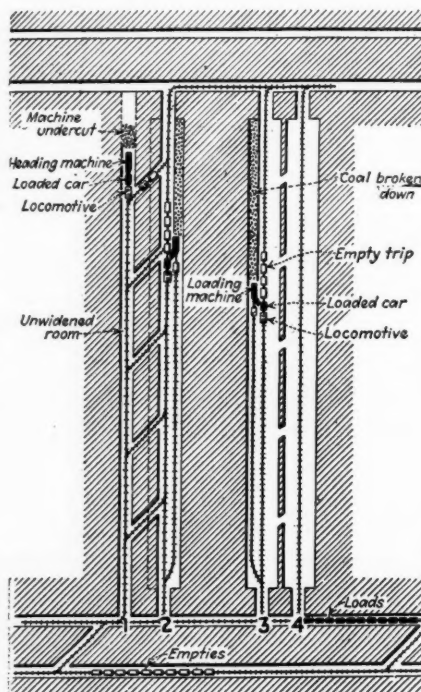
First, referring to the plan proposed by Mr. Scholz, it is apparent that the method of slabbing the coal from the ribs of long rooms 500 ft. in length is at least limited to seams of moderate depth and affording a fair height of coal.

While ventilation and drainage may offer no particular drawback, in this method, there is more doubt regarding the protection afforded against roof falls, which may prove a serious problem. While Mr. Scholz has given no dimensions further than to state the size of the panel, 500 x 1,200 ft., with rooms driven 12 ft. wide, I may assume the slabbing is done in widths of 6 to 6½ ft.

Let us suppose that, after slabbing each side of a 12-ft. room, the width

of the room is increased to 25 ft. Ordinarily I would consider this a safer width than to take another slab cut of 6 ft., which would increase the width to 31 ft.

It is stated that these 12-ft. rooms are driven in pairs and on such centers that when a slab cut is taken from each side of the pillar between them



SHOWING TWO PAIRS OF ROOMS IN PROCESS OF SLABBING

the latter will be almost cut through. Judging from this description, we have as a result of two slab cuts, one in each room, say, a series of two parallel rooms driven in pairs, 500 ft. long, the rooms in each pair being separated by a chain pillar 6 or 8 ft. wide. We will assume that these rooms are separated by larger pillars, perhaps 60 ft. wide.

Let me ask here, How is it proposed to recover these narrow pillars? We have a 1,200-ft. panel from which, perhaps, 40 per cent of the coal has been recovered in the entire panel, the remaining 60 per cent of the panel is now standing on 60-ft. pillars.

For the purpose of utilizing the improved machines for which this method is designed, these pillars must be attacked by splitting them with additional 12-ft. rooms and slabbing these as before. It is evident to the practical mind that we will soon reach a condition where the pillars will not support the overburden, as we have not provided a sufficient area to break the roof and relieve the pressure on the pillars. The result is that these remaining narrow pillars will be crushed and a large portion of the coal rendered unminable.

### PRACTICAL WORKING OF THE SYSTEM

While possibly being mistaken in my conclusions. I fail to see how this system will work out satisfactorily, but would be glad to have it shown under actual working conditions. It will be readily appreciated that the trackwork presents numerous difficulties and, though these are not insurmountable, they increase the expense of operation.

For convenience of explanation, I have marked the rooms shown in the accompanying figure as No. 1, 2, 3 and 4. Having taking a right-slab cut in No. 1 room and a left-slab cut in No. 2 room, we will be compelled to shift two switches on the heading to where they can be used when the larger 60-ft. pillar is split in the manner previously mentioned.

It may be that the plan contemplates removing the remaining 6- or 8-ft. pillars by the pick. Otherwise it would be necessary to shift the line of track in one room to where the machine could mine this pillar, but that would be a questionable undertaking to say the least.

### SLABBING THE COAL FACE IN A PANEL

Turning now to the plan suggested by Mr. Luxton, which appears to be a more practical suggestion, it does not appear from the figure accompanying his letter how the loads are to be hauled away and the empties supplied to the loader as they are needed. In the Scholz plan there is a double-track system for that purpose.

The Luxton plan (p. 1083) does not show any track system. The text mentions, however, a double row of chocks at the working face, and it is possible the empty track is intended to be laid between these two rows of chocks, which would be all that is required to serve the loading machines successfully.

Allow me to suggest that where the grades are not excessive two longwall faces could be established in each panel,



working away from each other and toward each of the flanking haulage roads.

In the development of these panels, the problem of getting air to the face may involve difficulties, in a gaseous mine, particularly in blocking out the 200-ft. square barrier pillars mentioned. It will be necessary to either split these pillars or make use of small blowers to ventilate the place until through connection can be established.

In closing, permit me to say that the discussion of new methods of mining is extremely interesting and should lead to valuable advances in the industry. I hope this will continue. Mining men realize the limitations of the older methods of mining and, despite the frequent charges made that they are bound to precedent, I believe every proposition that promises real advancement will receive favorable consideration at their hands. A proposed system, however, must be reasonably sure of success to justify its undertaking.

M. L. O'NEALE,

Consulting Mining Engineer.

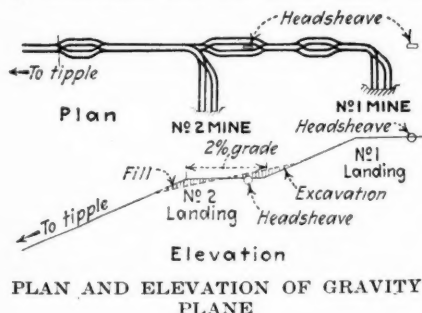
Morgantown, W. Va.

### Suggestions in Gravity-Plane Haulage

*To serve two mines at different elevations output of upper mine lowered in two stages. Another suggests use of two ropes winding on a double drum having diameters proportioned to the length of haul.*

IF NOT too late, I want to add a suggestion to those that have already appeared in *Coal Age*, July 14, p. 58 and Aug. 11, p. 219, relative to adapting a single gravity plane to serve two mines at different elevations.

My suggestion is to construct a suitable landing at the lower-mine level, by excavation and fill, as indicated in



the accompanying figure, showing a plan and elevation of the upper portion of the plane.

While this plan will require some alteration of the present incline, it will afford practical satisfaction in handling the output from each mine. The coal from the upper mine will be lowered in two stages, making the system what I would call a "tandem gravity plane." There must be room provided on the lower landing to hold a trip from the upper mine, the switch for the lower mine connecting with the incline just above the knuckle.

This arrangement will naturally steepen the grade of the incline some-

what just above and below this landing. The track on the landing should have a 2 per cent grade, as indicated in the figure, to facilitate the movement of cars on reaching this landing. Also, a second headsheave will be required at the landing.

### BOTH MINES OPERATED INDEPENDENTLY OR JOINTLY, AS DESIRED

This system permits independent operation from either mine, or trips may be lowered from both mines simultaneously. If desired to serve the upper mine only, at a time when the lower mine is not running, the end of the lower rope can be coupled to that of the upper rope, making one continuous rope reaching from the upper level to the tippie.

When both mines are running, as I said, the output from the upper mine is lowered in two stages, the cars reaching the lower level in the first stage and waiting there to be lowered to the tippie in the second stage. In each stage, a corresponding number of empties is drawn up the incline. To save tracking, passing tracks are constructed at the middle point on each respective portion of the incline.

This description, together with the accompanying figure, will, I believe, make the operation of the system clear. It is understood, of course, that suitable brakes must be provided on each headsheave in order to control the movement of the trips on the incline. The plane should also be equipped with the usual safety devices and a good signal system provided to insure successful operation.

STEPHEN DAVIES.

Midlandvale, Alta., Canada.

### ANOTHER LETTER

NOT having been able to offer a suggestion that occurred to me at the time the gravity plane for serving two mines at different elevations was discussed in *Coal Age*, I may be permitted to do so now, as it seems to me to be worthy of consideration.

My idea is to use a double drum, instead of a single headsheave, at the landing of the upper mine. This drum should be in two parts, having different diameters but mounted on the same shaft and firmly connected together. The diameter of each half of the drum must correspond to the length of haul, which is 1,100 ft. to the upper mine and 1,000 ft. to the lower mine. In other words, the ratio of the diameter of the two halves of the drums should be, in this case, 11:10.

### SEPARATE ROPE FOR EACH MINE

For example, if the diameter of the larger half of the drum, which serves the upper mine is 5½ ft., that of the smaller half serving the lower mine should be 5 ft. The idea is to have a separate rope for each mine, these ropes winding on the same drum.

Each mine will use one track of the incline altogether, the same track serving for the descending loads and the ascending empties. The loaded trip, descending from the upper mine, will

pull the empty trip up to the landing at the lower mine; and, *vice versa*, the loaded trip from the lower mine will pull the empty trip up to the landing at the upper mine.

Of course, each respective half of the drum, having a different diameter, presents a different leverage and, to preserve the balance in the operation of the claim, either the capacity of the cars or the number of cars lowered in a trip from the upper mine, as compared with the same items for the lower mine, must be in the inverse ratio of the diameters of the drums, or as 10:11, assuming the weights of the cars for each mine are equal.

The system, however, assumes the same ratio of output for the two mines and their continuous operation simultaneously.

H. H. CAMERON.

Thorburn, Pictou County, N. S.

### THIRD LETTER

REFERRING to the question of adapting a gravity incline to the service of two mines, one a hundred feet below the other, my plan would be to convert this incline into an engine plane, by placing an engine at the top and using a single rope to lower the loaded and hoist the empty cars.

This plan would do away with any trouble caused by having two ropes, or branches of the same rope, as in the gravity system. There would be but a single track on the entire incline.

On each landing and on the tippie at the foot of the plane, there will be the usual loaded and empty tracks connected by an automatic spring switch that would be always set for the empty track and require no attention.

At the lower landing the switch connecting with the incline must turn up the plane, after the manner of a backswitch. The empties for this mine, being hoisted to a point where they can be dropped in onto the landing. The rope is then changed and the loads drawn out and lowered on the plane.

### THROW SWITCH ON INCLINE

This backswitch at the lower landing is the only switch on the incline and must be thrown when cars are to be run in or out at this landing. It cannot be automatic like the switches on the two landings and the tippie.

If desired the engine can be located at the foot of the plane, or at any convenient point on the incline, and the rope carried up to and over a bullwheel at the head of the plane. In that case, however, the switches connecting both landings with the plane would need to be backswitches; and the rope leading from the engine up to the bullwheel should be carried on the offside of the plane, so as not to interfere with the switches.

In the operation of the plane, assuming the mine cars hold 30 cwt. of coal and ten-car trips are run, it will be possible to make a round trip in 10 minutes, thus handling 60 cars or 90 tons of coal per hour, making the output of the two mines 720 tons.

Forty Fort, Pa.

FOREMAN.

### Certification of All Mine Officials Needed

*The law an injustice to certified mine foremen inflicted by the provision permitting employment of uncertified men. Its effect on young men, is to take away their ambition to study.*

LIKE many others, I have followed with interest the discussion regarding the change that was made in the Pennsylvania mining law, which permits the employment of uncertified men as foremen, assistant foremen and firebosses. My opinion is that this provision of the law inflicts a great injustice on certified men seeking these positions.

It is no wonder, of course, that the large majority of coal companies manifest little desire to employ men who hold no certificates, recognizing that the health and safety of their employees are at stake, and they assume a great responsibility when taking on a man who has not prepared himself by study and training to assume the duties involved.

#### HOW REVISED LAW AFFECTS THE SELECTION OF MEN

Notwithstanding all this, the change in the mining law has its bearing on the employment of men in an official capacity in the mine. In the selection of men to act as assistants or as firebosses, a mine foreman is inclined to consider the expense of hiring a certified man and will often decide to run the risk of appointing a miner whom he may think is capable of filling the place, regardless of what knowledge the man has of the principles of mining.

Not long since I saw, with much regret, a first-grade mine foreman removed in order that the superintendent might give his place to a relative. There was absolutely no reason, other than favoritism, for making this change. The foreman he removed was both practical and had a good education. In that case, as in many others, the relative must be given work, though there may be serious doubt as to whether he can handle the job.

In this particular case, the man proved a failure and, after a few months, was asked to resign and given another job. Instances of replacing good men with incompetent relatives or friends are numerous but, almost without exception, the trial is of short duration as the increase in the cost-sheet quickly proves the incompetency of the man.

#### CERTIFY MINE SUPERINTENDENTS

In my opinion, our mining laws should require not only the certification of mine foremen, assistant foremen and firebosses, but mine superintendents should also be compelled to pass an examination. Indeed, all men holding official positions and in charge of underground work involving the safety of men should be subject to the rule.

Too often it happens that, while a company requires the services of certified underofficials, the mine superin-

tendent is an office clerk or store manager and a mere figurehead in reference to operations in the mine. When that is the case the daily tonnage and cost-sheet are matters of the first consideration with the company, and needed supplies are lacking to make the mine sanitary and safe.

In addition to what has been said, one cannot fail to observe the effect that this change in the mining law is having on young men who are losing their de-

sire for study. A like effect is observed in certified foremen who should be studying to fit themselves for the position of superintendent of mines. The result has been a general lowering of the standard of competency in all official mine positions. Men in seeking these positions now trust more to friendship and favor than to their ability and fitness for the places they desire to fill.

SAMUEL A. JONES.

Colver, Pa.

## Inquiries Of General Interest

### Remedying Troubles in Concrete Foundations

Boltholes Forming Encasements for Anchor Bolts, in Concrete Foundations, May Cause Cracks from Freezing. Trouble Remedied by Grouting. How Oil Stains May Be Removed or Effaced

WE have experienced trouble, from time to time, by the cracking of small foundations supporting a trestle, or forming the base of a small machine. The cause for this is not apparent, but perhaps can be explained and its remedy given. The concrete was well mixed and given ample opportunity to set before being subjected to its load.

The cracking of these foundations was mostly observed under trestle bents supporting the tippie where it has proved a considerable annoyance, owing to the need of replacing them from time to time to insure the safety of the structure.

Another difficulty is frequently manifested in the unsightly appearance of the concrete foundations of engines and other machinery, caused by the oil used for lubrication. In the hope of effacing the stain on the surface of the concrete we have painted these foundations, but when the paint dried the stain would appear as badly as ever. If *Coal Age* or its readers can suggest the proper remedies for these troubles, the information will be greatly appreciated.

FOREMAN.

Wilkes-Barre, Pa.

Replying to the first inquiry, we would suggest that the cracking of concrete machine foundations, or those used for the support of a trestle, may often be due to the freezing of water accumulated in the encasement of the anchor bolts used to secure the machine or superstructure to the foundation on which it rests.

The bolthole or encasement for the bolt is generally made a little larger than the bolt, in order to admit of some adjustment of the baseplate of the machine or superstructure. When the bolt is in place it should be thoroughly grouted with cement or melted pitch, to prevent water finding its way into the hole and freezing. When it is pos-

sible for this to occur to such extent as to crack the foundation the work has been improperly done.

All anchor-bolts in such foundations should be fixed in position by the use of an accurate templet corresponding to the baseplate that is to set on the foundation. Before the baseplate is added, each anchor-bolt is firmly fixed in position with melted sulphur, cement or other material. A thin layer of cement is then applied and the baseplate imbedded in it, which affords a solid bearing that distributes the weight evenly over the foundation.

When this work has been properly executed any cracks observed in a concrete foundation are generally the result of uneven settlement in the subsoil, insufficient size of strength of the foundation, or improper design of the superstructure in making no allowance for cross-strains due to expansion of the members.

To avoid cracking, all concrete foundations must stand on a hardpan or good bed of dry sand below the frost line and well drained. The concrete must be allowed to stand a month before applying the load and care must be taken to avoid possible cross-strains due to expansion in the superstructure.

#### REMOVING STAINS FROM CONCRETE

Regarding the stain mentioned as appearing on engine foundations and ascribed to the oil or grease used for lubrication, it is probable that the coloration arises either through the disintegration of the oil and deposit of a fine sediment that impregnates the surface of the concrete, or to chemical action taking place between an acid lubricant and one or more of the ingredients of the concrete, chiefly iron oxide.

To efface this stain the surface should be thoroughly cleansed and scraped. The new surface thus exposed must



then be washed with gasoline, a scrub-brush being used for the purpose. The gasoline is intended to dissolve and remove the oily impregnation. It may happen that the oil has penetrated the concrete to a considerable extent, in which case it will be necessary to employ hammer and chisel to cut out the discolored surface, after which fresh concrete must be applied to form a new

surface. This, however, should only be done after repeated trials have been made to wash out the stain with gasoline.

Before a concrete surface is painted it should be thoroughly dried out, to enable the paint to take a firm hold on the surface through its absorption into the pores of the concrete. Otherwise the paint will peel off when dry.

weight of 100 cu.ft. of pure dry air is calculated thus:

$$W = 100 \left( \frac{1.3273 \times 29}{510} \right) = 7.547 \text{ lb.}$$

**QUESTION**—The pressure producing ventilation is 8.7 lb. per sq.ft., what is the water gage?

**ANSWER**—Each inch of water gage corresponds to a pressure of 5.2 lb. per sq.ft. Therefore, the water gage corresponding to a pressure of 8.7 lb. per sq.ft. is  $8.7 \div 5.2 = 1.67$  in.

**QUESTION**—An air current of 10,000 cu. ft. per min., is passing along an airway of 20 ft area and having a total rubbing surface of 24,000 sq ft; what would be the water gage in this case?

**ANSWER**—An air volume of 10,000 cu.ft. per min., passing through an area of 20 sq.ft. gives a velocity of  $10,000 \div 20 = 500$  ft. per min. The water gage corresponding to this velocity in the given airway is

$$\frac{0.00000002 \times 24,000 \times 500^2}{5.2 \times 20} = 1.15+ \text{ in.}$$

**QUESTION**—We have 250,000 cu.ft. of air per minute passing with a water gage of 3 in; what is the horsepower represented?

**ANSWER**—A water gage of 3 in. corresponds to a pressure of  $3 \times 5.2 = 15.6$  lb. per sq.ft. The horsepower producing this circulation is found by multiplying the air volume (cu.ft. per min.) by the unit pressure (lb. per sq.ft.) and dividing by 33,000; thus

$$H = \frac{250,000 \times 15.6}{33,000} = 118+ \text{ hp.}$$

**QUESTION**—Two shafts, are each 500 yd deep and 16 ft in diameter; what is the extent of rubbing surfaces exposed to the air in each shaft?

**ANSWER**—The perimeter of each shaft is  $3.1416 \times 16 = 50.2656$  ft. The rubbing surface in each shaft is, therefore,  $3 \times 500 \times 50.2656 = 75,398.4$  sq.ft.

**QUESTION**—With a one-inch water gage, we have 100,000 cu.ft. of air produced; what will be the quantity if we have a two-inch water gage?

**ANSWER**—For the same airway, the quantity of air in circulation varies as the square root of the pressure or water gage. In this case, the gage being doubled, the volume of air is increased as the square root of 2, or 1.414 times, which gives  $100,000 \times 1.414 = 141,400$  cu.ft. per min.

**QUESTION**—What are the principal causes of mine explosions?

**ANSWER**—A mine explosion is caused by the ignition of gas or dust accumulated in the mine or fouling the air current to an extent that the air is inflammable or explosive. Anything that may cause the ignition of gas or dust in a mine, as for example, the use of open lights where gas is generated, or the careless use of a safety lamp; a defective lamp in presence of gas, or the flame of a blownout shot in the presence of dust or gas, or the sparking of electric wires will give rise to an explosion, in mines generating gas and dust.

## Examination Questions Answered

### Examination, Mine Foremen and Firebosses, Lexington, Ky., May 30, 1921

(Selected Questions)

**QUESTION**—(a) What is the principle of the underground ventilating furnace, in the ventilation of a coal mine? (b) Which is the most economical, furnace or fan, in a deep shaft?

**ANSWER**—(a) The principle of a mine ventilating furnace is to heat the air in the upcast shaft, near the bottom of which the furnace is located. This rarefies the air in that shaft and makes it lighter than the outside air entering the downcast shaft. The greater weight of the downcast column overbalances that of the upcast column and causes the ventilating pressure that produces the circulation of air through the mine airways.

(b) In a very deep shaft, in a mine generating no gas, a mine furnace may prove more economical though less reliable than a ventilating fan. The reason is that, in furnace ventilation, the ventilating pressure increases with the depth of the shaft; and a comparatively slight difference in the temperatures of the downcast and upcast columns is sufficient to produce a good circulation throughout the mine.

**QUESTION**—Describe what system of ventilation and general management you would adopt in a gaseous mine, in order to keep the mine in safe condition, both as to explosion and other causes.

**ANSWER**—An exhaust system of ventilation should be provided by means of a centrifugal fan properly designed and proportioned to its work. In a very gassy mine, duplicate fans should be provided to guard against possible accident and stoppage of the circulation of the mine. The mine should be divided into separate ventilating districts, each district being ventilated by a separate air split. The quantity of air passing in each split should be proportioned to its need, and the velocity of the air at the working face should not exceed 6 or 8 ft. per second.

In the management of the mine, strict rules and regulations should be

enforced to prevent any accumulations of gas or dust in the working places and on the roads and travelingways. No mixed lights should be allowed. The mine may be preferably equipped with electric cap lamps. Safety inspectors, shotfirers and firebosses should carry, besides, an approved type of safety lamp, for testing for gas. The safety inspectors should visit every working place in the mine, at frequent intervals, while the men are at work.

**QUESTION**—(a) For what purpose are regulators used? (b) How is a regulator constructed and where should it be located?

**ANSWER**—(a) Regulators are used for the purpose of dividing the air, in any desired proportion, between the several splits in the mine, according to the conditions that exist in each split.

(b) There are two types of regulators in use known as the box regulator and the door regulator. These are shown in the accompany figure. The box regulator, shown on the left, is constructed by building a partition or brattice across the airway and arranging a slide opening with an adjustable shutter, by which the amount of air passing is regulated or controlled. This form of regulator is generally placed near the mouth of the back entry where it will not interfere with the hauling of the coal.

The door regulator, shown on the right of the figure, consists of a large door swung in such a manner, at the mouth of an entry, as to divide the air entering any split, in the desired proportion. The door is provided with a set-lock or stop that determines its position at the mouth of the entry.

**QUESTION**—What is the weight of 100 cu.ft. of air when the barometer stands at 29 in. and the thermometer marks 10 deg. C?

**ANSWER**—A temperature of 10 deg. C. corresponds to  $10 \times 9/5 + 32 = 50$  deg. F. Then, assuming a barometer,  $B = 29$  in., and an absolute temperature,  $T = 460 + 50 = 510$  deg., the

## Million and a Quarter Persons Produce Coal in Great Britain

INCLUDING the persons who work on spur tracks to the mines and handle railroad cars at the tipples (or "heapstead") and those who are employed at the washeries the number of persons who were employed at the mines of Great Britain in 1920, inside and outside, was 1,248,224, just slightly under a million and a quarter persons. This includes 956 persons who work in the Irish mines. The Yorkshire and North Midland district is the biggest single region. It has 286,858 employees at work. South Wales comes next with 271,516 persons. The number employed in the mines of the United States is about 775,000 according to the estimate of the U. S. Bureau of Mines for 1920.

NUMBER OF MINE WORKERS IN GREAT BRITAIN

	Under Ground	Above Ground	Total Under and Above Ground	Total in 1919	Number of Mines at Work, 1920	Number in 1919
1. Scotland.....	121,650	32,843	154,493	147,039	518	512
2. Northern.....	200,316	57,927	258,243	246,201	469	439
3. York and North Midland.....	225,149	61,709	286,858	275,058	475	483
4. { Lancashire and North Wales....	108,001	27,956	135,957	129,357	296	299
Ireland.....	748	208	956	886	13	16
5. South Wales.....	226,214	45,302	271,516	257,613	614	576
6. Midland and South'n.....	108,281	31,920	140,201	135,159	466	518
Totals.....	990,359	257,865	1,248,224	1,191,313	2,851	2,843

Below ground 53,893 boys below the age of 16 were employed; and above ground, 4,677 boys under 14, 18,436 boys from 14 to 16, 15 females under 14, 443 females from 14 to 16 and 7,860 females above 16.

The relative unimportance of other mining operations is shown by the following facts: In mines under the Metaliferous Mines Act there were 21,323 persons employed in 1920—12,291 below and 9,032 above ground. There were 498 mines at work, as against 495 in 1919, when 21,661 persons were employed. Under the Quarries Act 67,750 persons were employed, as compared with 57,076 in 1919. The number of quarries at work was 5,479 as against 5,135 in 1919.

## Brophy and Operators Exchange Hot Letters

PRESIDENT BROPHY, of District No. 2, of the United Mine Workers of America, replied recently to the letter of the Central Coal Producers' Association declaring that its "statements are so worded as to convey the impression that slack work is a local condition for which the wage scale is to blame." He declares that "Government reports on the contrary make it very plain that slack work is, at present, a national condition, affecting both union and non-union fields." He then quotes the U. S. Geological Survey reports for the week ending July 16, when "central Pennsylvania was producing at the rate of 35 per cent, West-

moreland was producing at the rate of 43 per cent and Somerset at the rate of 31 per cent", and he contends that it does not appear from these figures that the trade in central Pennsylvania has been any worse than in the two non-union areas—Westmoreland County and Somerset County.

He overlooks the fact that it is a phenomenon for Westmoreland to be producing so much as 43 per cent with the ovens shut down which have been, for years, the background of the greater part of its industry. In 1917, 45 per cent of the Westmoreland coal was made into coke and now with its coke business flat it is remarkable that Westmoreland should run 43 per cent strong. It is getting new business from somewhere. The central Pennsylvania operators contend it is taking it away from that region.

Brophy has nothing to say as to the records of the Windy Gulf region of 50.4 per cent; the Tug River, of 60.5 per cent, the Logan of 55.3 per cent; the Hazard, of 55.6 per cent; the Harlan, of 55.2 per cent and the Alabama, of 63.2 per cent. The non-union regions are distinctly busier than the union districts and are on a better economic basis.

In their reply the operators say that the non-union mines are busier now than when "everybody had business and was loading to capacity." They add, "The lower volatile coals of central Pennsylvania are now practically out of the market except in a few cases where they are being used for railroad fuel, while the higher grades of low-volatile coal are now feeling the full effect of the competitive advantage enjoyed by the Quemahoning coal of Somerset County, where wages were reduced on Aug. 1."

## Charleston Section, A. I. M. E., Issues Invitation for Meeting, Sept. 6 and 7

A SECTION of the American Institute of Mining and Metallurgical Engineers, embracing all members in West Virginia and the Big Sandy Branch of the Chesapeake & Ohio in Kentucky but not the Fairmont-Clarksburg Field of northwestern West Virginia, will hold a meeting at Charleston Sept. 6 and 7, at which members and non-members of the institute are alike invited to be present. At least one representative of each coal company should participate in the session.

On Sept. 6 technical discussions will be held and on the following day visits will be made to the government plant and the glass works. It is hoped that Herbert Hoover and Will Hays will be present.

REPORTS REACHING WASHINGTON are to the effect that a number of the larger railroads have adopted the policy of expending the amount saved by the 12 per cent wage reduction to employ more shop men and concentrate them on the repair of equipment. Preference is being given to open-top equipment in an effort to have as much of that type of rolling stock available as is possible, since it is believed that the coal movement this fall will increase to the point that there will be loading available for all open-top cars.

## Bituminous Coal Loaded Into Vessels at Lake Erie Ports During Season to End of July\*

(In Net Tons)

Ports	Railroads	1921			1922			1919		
		Cargo	Fuel	Total	Cargo	Fuel	Total	Cargo	Fuel	Total
Toledo.....	Hocking Valley.....	2,349,553	61,521	2,411,074	982,138	17,619	999,757	2,405,550	71,532	2,477,082
	Toledo & Ohio Central.....	646,417	18,206	664,623	475,130	25,843	500,973	730,336	21,761	752,097
	Baltimore & Ohio.....	1,365,697	38,589	1,404,286	298,523	11,733	310,256	1,347,207	30,452	1,377,659
Sandusky.....	Pennsylvania.....	800,265	22,079	822,344	400,166	4,802	404,968	731,157	20,742	751,899
Huron.....	Wheeling & Lake Erie.....	1,020,112	26,182	1,046,294	806,672	50,894	857,566	942,322	30,797	973,119
Lorain.....	Baltimore & Ohio.....	1,594,796	58,398	1,653,194	1,125,146	99,181	1,224,327	1,711,704	88,591	1,800,295
Cleveland.....	Pennsylvania.....	1,312,504	44,878	1,357,382	170,644	57,028	227,672	1,276,761	134,220	1,410,981
	Erie.....	276,161	8,448	284,609	19,903	1,955	21,858	97,188	3,114	100,302
Fairport.....	Baltimore & Ohio.....							16,692	12,954	29,646
	New York Central.....	817,040	33,595	850,635	392,526	108,069	500,595	1,038,634	78,680	1,117,314
Ashtabula.....	Pennsylvania.....	1,529,437	48,159	1,577,596	405,559	40,375	445,934	1,044,607	46,356	1,090,963
Conneaut.....	Bessemer & Lake Erie.....	592,120	7,443	599,563	1,104,633	17,936	1,122,569	712,094	3,492	715,586
Erie.....	Pennsylvania—West.....	600,592	20,136	620,728	40,219	2,579	42,798	429,929	20,772	450,701
	Pennsylvania—East.....	110,968	15,523	126,491	32,479	37,157	69,636	133,104	7,275	140,379
Totals.....		13,015,662	403,157	13,418,819	6,253,738	475,171	6,728,909	12,617,285	570,738	13,188,023

\* Compiled by Ore & Coal Exchange, Cleveland, Ohio; H. M. Griggs, Manager.



## American Coals Helped British Gas Plants to Operate Despite Shutdown of Collieries During Strike

AT THE outset of the recent British strike many industries using gas coals were forced to purchase their supply in foreign markets, much of it at inflated prices. Interesting particulars showing how the gas industry met and survived the stoppage through the use of foreign gas coals are shown in this article.

Many consumers reported satisfactory results from the use of American coal, although others were quick to condemn it for poor quality. This gives rise to the thought that in some instances inferior coals were "put over," as was the case last year during the period of strong demand. Nearly every purchaser bewailed the high cost of American fuel, indicating that it is not easily salable in Great Britain except in an emergency, for quality consumption, or where some special concession is made.

The Gas Light & Coke Co. got through the trouble partly by using oil gas and partly by purchasing foreign coal. From America it obtained 72,000 tons, from France 109,000 tons, and from Belgium 4,000 tons. The supply from France included what is known as "Reparation" coal. The total loss sustained by the company, including that due to the inferiority of foreign coal, was about £480,000.

The South Metropolitan Gas Co., with the prolongation of the stoppage, was forced to purchase coal from abroad. Considerable quantities were obtained from France, the United States and Canada. The American coal proved excellent in quality, but the French coal varied very much.

The Tottenham District Light, Heat & Power Co. set about augmenting coal stocks by ordering samples from collieries all over the country. Supplies were obtained from about sixty different collieries, in quantities of from 200 to 300 tons from each, and in nearly all cases the coal was of the best quality that the collieries could supply. Although no additional supplies had yet been used, 4,000 tons of American coal were ordered at the end of June.

### FINDS AMERICAN COAL BETTER THAN CONTINENTAL

The Cambridge Gas Co. brought Belgian coal by barge from King's Lynn. This coal, fairly good at first, later became poorer in quality, and the company ceased buying it when other supplies were assured. The company had Belgian, German Reparation, French and American coal, and it varied considerably in quality. A noticeable feature of the Continental coals was the low sulphur content. American coal was a decided improvement on Continental coal. It tested, volatile matter 32 per cent and ash 7 per cent, and gave 9,000 cu.ft. of gas. The coke was of fair quality, giving an immediate improvement in the furnaces.

The South Suburban Gas Co. purchased some French coal which was indifferent in quality, but the coal procured from Germany was very good and came out well—except as to price, which was higher than it should have been.

Arrangements were made by the Maidstone Gas Co. to bring French and Reparation coals from Dunkirk by sailing barges. Saar Valley coal was used later, but this was found to be very dirty.

During June the gas supplied by the Hastings & St. Leonards Gas Co. was practically entirely maintained with foreign coal in conjunction with oil. The worst coal was the most expensive, and this was the Reparation coal, which by itself probably would have resulted in a failure of supply, but other coal arriving was much better, especially the American.

Early in June the stocks of coal at the Birmingham Corporation Gas Department had diminished to such an extent that it became necessary to obtain coal from abroad. Five cargoes of American gas coal, amounting in all to approximately 20,700 tons, were then purchased, the cost being exceedingly high—about two and a half times that charged for good gas-making coal before the strike. This American coal, although not up to the standard of the coals usually carbonized in Birmingham, proved to be fairly

satisfactory. The yield was equivalent to the poorer quality of English gas-making coals, but the coke was particularly dense and gave considerable trouble in the carbonizing plants. The chief difficulty experienced probably was due to the fusible nature of the ash (about 8 per cent), which caused severe clinker troubles in the water-gas generators.

The first cargo arrived for the Glasgow Corporation Gas Department from Canada on May 24, and further cargoes of Canadian and American coal, amounting in all to about 60,000 tons, were received (average price 63s. 9d. per ton at docks). Very satisfactory results were obtained. It was rich in gas and the coke produced was quite as good as can be obtained from the best Scotch coals.

### BELGIAN AND AMERICAN COAL GIVE GOOD RESULTS

The Dundee Corporation Gas Department obtained 7,391 tons of imported coal at an average rate of £3 17s. 6d., besides 2,185 tons of coal from home collieries at an average rate of £3 11s. 6d. The average price for coal delivered from April 1 to June 30 was £3 16s. The average price for coal delivered in March was £2 2s. 8d. The results obtained from both the Belgian and American coal were very good. The local coal used gave endless trouble, both from the volume of gas produced and the heating value of the coke.

The Liverpool Gas Co. reports that the quality of the coal from the different sources varied greatly. Some of the American coal was quite satisfactory, while other coal said to be from the same source was anything but good. The German coal from the Saar Valley gave good results, but this was not the experience with Belgian coal.

Imported coal was not purchased by the Exeter Gas Co. to any extent until the latter part of June, and then this was blended with the stock coal, with fair results. Some of the imported coal was tried alone, and the results were anything but favorable.

### COULD MAKE GAS FROM IMPORTED COAL ONLY AT LOSS

The Portsea Island Gas Light Co. (Portsmouth) was able to obtain, in spite of considerable competition, about 10,500 tons of French, German and American coal. This imported coal was expensive and on the eve of the strike settlement had attained a cost which would result in gas being made only at a substantial loss. Some of the foreign coal gave very poor results, only from 6,000 to 8,000 cu.ft. per ton, as compared with more than 11,000 cu.ft. under normal conditions, and no coke was obtained from it. The total quantity imported was as follows: 6,000 tons of French coal, at 63s. 6d., alongside the company's wharf; 2,000 tons of American coal at 80s., alongside the company's wharf; 2,500 tons of German Saar Valley coal, at 90s., plus H.M. dockyard charge for unloading. The French and American coals gave the following analysis: Average thermal value, 4,866,000 to 5,200,000 B.t.u. per ton; volatile matter, 23 to 24 per cent on the dry basis. The coal was found to be very unsatisfactory in vertical retorts, and the maximum throughput was reduced by 20 per cent as compared with the usual coals. The Saar Valley coal gave excellent results in both vertical retorts and horizontals, as also did the coke produced from it in the company's water-gas plant.

The Colchester Gas Co. reported the following results obtained from the use of foreign coal: The gas yield varied between 11,200 and 8,000 cu.ft. per ton with a calorific power of 450 to 420 B.t.u. The Belgian and French coke came out of the retort in huge blocks, difficult to break, and contained a high percentage of ash.

The Edinburgh Corporation Gas Department purchased a little over 14,000 tons of American coal. This proved to be of first-class quality, giving gas-making results fully equal to the best local coals, being of a coking nature and producing superior coke and heavier weight per ton.

# The Weather Vane of Industry

News Notes Chronicling the Trend of Industrial Activities on Which Depends the Immediate and Future Market for Coal

**M**ORE active buying by retail dealers in some sections of the country during July indicates a slight improvement in the business situation, according to Archer Wall Douglas, chairman of the Committee on Statistics and Standards of the Chamber of Commerce of the United States, in his monthly review of business conditions in the September number of *The Nation's Business*.

"A study of their orders," he says, "reveals the vital fact that they are actually buying goods for their needs instead of having them sold altogether by the traveling salesman, and the difference is as deep as a well and as wide as a church door. For it means the gradual return to usual ways and methods, both of thought and action, and the slow effacement of fear and apprehension."

Another hopeful sign, according to Mr. Douglas, is "an increase in the working forces of some railroads, both in the number of trainmen and shop workers to take care of the added tonnage and to repair cars that were urgently needed."

"While these promising signs have appeared on the business horizon, it is not quite time to 'holler,' for we are not yet out of the woods. There are still readjustments to be made, financial wrecks to be disposed of, many problems to be solved. But we seem to be headed definitely toward better conditions, even though they are still afar off. We are apparently in the initial stages of emergence from the present business depression and entering upon a period when each particular business will be governed more by the natural laws pertaining to it and less by those abnormal forces which turned the world upside down."

"One of the serious handicaps of business is the difficulty in obtaining a living profit because the cost of doing business has not yet been adjusted to the still high prices of necessary supplies and the expense of many of the operating methods. Moreover, the prime need is to make sales so as to preserve some reasonable relation between the values of output and the cost of operation. In order to do this, care must always be taken that the prices made are not out of line and apparently too high, and any attempt to make sales beyond the immediate wants of the purchaser must only too frequently be accompanied by some inducement in price. For the consumer is much of the persuasion that 'profiteering' is still in vogue and he is scarcely open to argument on that score."

## Upturn in Business in East

The turn in general business and employment has come and the situation now is one to be faced with optimism, according to the belief expressed by officials of Chambers of Commerce along the Eastern seaboard in at least 100 cities, ranging from Maine to Virginia, who replied to a questionnaire submitted to them by the Philadelphia Chamber of Commerce. These replies record the normal and present employment conditions, and in virtually every instance it was said that employment was taking a slight upward trend. The total number of men

normally engaged in industries in the various centers mentioned in the compilation was 1,592,923. The unemployment figures showed that 539,937 were out of work. This total, it was explained, represented virtually the peak of unemployment, a decrease taking place since.

## American Woolen at Capacity

The American Woolen Co. is reported to be running full in all lines with as large a force of employees as was ever on the company's lists. With the exception of the early months of the year the plants have been operating at capacity.

## B. & A. Repair Shops Reopen

Announcement was made Aug. 20 that the Boston & Albany R.R. locomotive repair shops, at Springfield, Mass., which had been closed, or partly closed, since June 15, would reopen with a full force Monday morning, Aug. 22. Employment, it was said, would be given to between 200 and 300 men.

## Typewriter Plant on Full Time

The Remington Typewriter Co. plant at Syracuse, which had been operating on a part-time basis, is expected to operate at capacity with 850 men on the payroll on Aug. 29. One hundred more portable typewriters will be produced per day than at any time since the new machine was placed on the market.

## Organize \$10,000,000 Cotton Co.

The organization, at Austin, Texas, of the Planters and Merchants' Mills, with capital stock of \$10,000,000, to build a number of mills for the manufacture of cotton goods is announced by Major S. M. Ransopher, formerly director of trade and industrial education at the University of Texas.

## \$7,000,000 Lumber Order Placed

An order for 150,000,000 ft. of pine lumber, costing between \$6,000,000 and \$7,000,000, has been accepted from the French Government by a syndicate of forty sawmills in Louisiana, Texas and south Mississippi. As soon as financial arrangements are completed the mills will begin cutting. This order will put most of the mills on full time and offer employment to many additional men.

## Cotton Mills Expected to Resume

The reopening of all cotton mills at Charlotte, N. C., is expected soon, following resumption of operations at the Concord, Kannapolis and Brancord plants.

## Repairing More Freight Cars

Another order for repairing 1,000 freight cars for the Lackawanna Railroad has been received by the Berwick plant of the American Car & Foundry Co.

## To Build Maine Road Next Year

Announcement was made Aug. 23 that the proposed Eastern Maine Ry., giving the Canadian National Ry. direct connection with the New England States via the St. John and Quebec railway route, would be built next year. Canadian interests plan to build the part of the connecting link from the present St. John valley line near Pohick to the Maine border, whence American interests are to build to connect with the Maine Central Railway near Danforth, Me.



## Coal Situation Discussed by Authorities in Industry

FURTHER evidence of a growing disposition on the part of the daily press of the country to enlist the advice of authorities in the industry when treating of coal affairs is seen in a series of articles on the coal situation recently published by the *New York Commercial*. The men whose services were obtained included H. Foster Bain, director of the U. S. Bureau of Mines; T. H. Watkins, president of the Pennsylvania Coal & Coke Corporation; George H. Cushing, managing director of the American Wholesale Coal Association; J. G. Bradley, president of the National Coal Association; Edward W. Parker, director of the Anthracite Bureau of Information, and Dr. Henry M. Payne, consulting mining engineer, New York City.

Under the caption "What's the Matter with the Coal Industry?—Lack of Stabilization Hurts Trade," H. Foster Bain writes in part as follows:

"If the real facts as to the industry were widely known it would be much less easy to get the money used in overbuilding, and if no part of the public could rely on this excess mine capacity to care for an artificial peak load, steady running would be possible. If also the buyer of coal could know at all times how much of the price to which he objects was due to the cupidity or inefficiency of his local dealer, how much reflected the railroad rate, and how much was chargeable to the 'Coal Baron,' the cartoonist's picture, it would be easier to fix responsibility, and having done so to get rid of the excess charge. Unless we are prepared boldly to attempt to limit the opportunity to enter the coal business, there is no remedy except publicity, and to be effective this must be official, for trade publicity is justly or unjustly considered by the public to be tainted with self-interest."

### WATKINS WOULD CURB SPECULATORS AND LABOR

T. H. Watkins, on the subject "Curb Speculators and Labor, and Improve Sales Methods as Aid to Coal Trade," writes, in part:

"Looking into the future, one of the greatest hindrances to the continuation of the production of reasonably cheap bituminous coal of different grades is the tendency on the part of the United Mine Workers of America to interfere with the management of the mines through an effort to nationalize and control the industry. Propaganda, which includes misrepresentation as to the operators' profits, and a steady effort to convey to the miners that the operator is their chief obstacle in the way of better living conditions, results in constant friction, breaking out in national and local strikes, which prevents the operator from securing the good will of the working force necessary for all round reasonable efficiency.

"Coal is a commodity that goes up the chimney; it cannot be worn, like a coat, a second time. The public is loath to realize that it takes a large amount of capital to develop the coal mines; a large amount of labor, which must be fairly paid to mine the coal; and that it costs money to transport and deliver it. The general public will not accept the statements of an operator as to costs or conditions surrounding the production of coal; neither is it sympathetic to organized labor, which causes costly strikes, and it is for that reason that we get the clamor for government regulation of the industry.

"However, I believe the public is entitled through government agencies, to know more about costs, more about the returns to capital, and more about the rates of wages paid to the miners and their working conditions. I believe the public would be astonished to find that the miner is not only well paid but that his living and working conditions are far better, far more wholesome than in most any industry in this country where labor is largely employed, and also would be surprised at the low average return upon capital invested in the business. The securing of this information for the public, through government agencies, ought not to be harmful to either the operator or the miner, and should tend to stabilize the business, both as to production and prices, but the fear on the part of the operator, the wholesaler and the retailer is that

acquiring such information by government agencies through inquisitorial methods would lead to further confusion through the facts being distorted, or to further attempts at unwise regulation. These fears prevent the operator from acquiescing in any government policy by which he is forced to furnish information not required in other industries."

Demanding fair play for the coal industry from legislators who would regulate the industry, George H. Cushing writes:

"The coal industry has no power over the railroads. It cannot build their facilities up to the point where they equal all needs at all times. The railroads themselves cannot expand their facilities without money. They can get the necessary money only by earning or borrowing it. They can do neither under present laws and conditions of business. In fact, if the railroads had the money and wanted to expand, they could not do so without a certificate of public necessity and convenience. Those who have tried to do a little pioneering in the matter of railroad building have been plainly told by the Interstate Commerce Commission that we want no 'unnecessary' railroads in this country. The railroad situation, under such conditions, is impossible of much improvement.

### A HEROIC REMEDY FOR THE "COAL SITUATION"

"The only apparent solution of the 'coal situation' is to make it a national habit to rush coal to the market on each lull in the movement of other commodities by rail. This is next to impossible because of the attitude of the buyers.

"There seems to be but one solution. That is to allow the recent fluctuation in coal prices to continue until the public has become sufficiently convinced of the essential fault in our handling of the transportation question to induce them to order a radical change. This sounds like—and is—a heroic remedy. The only alternative, however, is to whittle all business down to the size of the crippled transportation system. That spells national industrial suicide.

"Not being able to recommend the latter course, the former is the only one which, to me, seems wide open."

J. G. Bradley has the following to say on the subject "Wages Held Only Remaining Item of Inflation in Bituminous Industry":

"In the bituminous coal market the lack of demand has driven down the price below the average cost of production of most of the mines. The bituminous coal operators have met the market price of coal as the price has receded along with the price of other commodities until their profit has disappeared, and in many cases not even a new dollar is being obtained for an old one, but still the price has not gone low enough to stimulate an increased demand. During the existence of the Fuel Administration careful studies were made to ascertain the price that would be fair to the coal producers in the various bituminous districts.

### DOUBTS WISDOM OF BITUMINOUS COMMISSION'S AWARD

"In the opinion of some who were familiar with the bituminous coal situation, the award of the Bituminous Coal Commission of 1920 was of more than doubtful wisdom because it approved the increase of wages in a basic industry for a fixed time without reference to the general industrial situation, and regardless of the fact that the country was on the threshold of a general deflation of commodity prices.

"There is a question as to whether this award has not in part caused the coal industry to lag behind others in the price deflation process and was not the first step in the creation of the unfortunate coal panic of the autumn of 1920, the more obvious and preponderating cause, after it had been initiated, being the failure of transportation facilities—that is, the inability of the railroads to supply enough empty coal cars to the mines to carry the coal which was there, waiting to be carried to the consumers.

"If the price of bituminous coal is not to continue at present levels mine labor and railroad labor must join with other wage earners of the country and assume part of the burden. If there are to be further reductions in the price

of bituminous coal, the mine workers must take a reduction in wages to cut the cost of production and the railroad workers must submit to a wage reduction to cut the cost of transportation. Otherwise these two privileged classes of wage earners will fail to bear their part of the cost of the re-establishment of American industry, and their day of reckoning with the great American public lies before them."

Regarding conditions in the anthracite industry Edward W. Parker writes in part as follows under the caption "Anthracite Industry Today Held to Approximate Normal Conditions":

#### ANTHRACITE INDUSTRY NOW PRACTICALLY NORMAL

"So far as the anthracite industry is concerned, the coal situation today approximates somewhat what were regarded as normal conditions prior to 1917. Ever since the coal year began, April 1, the mines have been working steadily and the output of domestic sizes has been shipped to market, but since July 1 there has been a noticeable decline in the consumers' demand. The present weakened demand for household supplies is probably, however, nothing more than was to have been expected during the vacation period, which covers most of July and August.

"Considering it from a general business standpoint, it must be pointed out that the anthracite industry is one of the few basic industries which is now at the peak of war-time cost inflation. Wages and costs are now at the highest points ever known. By order of a Federal commission, appointed by President Wilson, the anthracite mine workers received a substantial increase in wages effective April 1, 1920, and the wage agreement entered into by operators and miners stands until March 31, 1922. Official announcement has been made by officers of the miners' union that no modification of this agreement, during its term, would be considered by the miners.

"In other respects, operating costs are still at war peak. Taxation has been vastly increased, and two new anthracite taxes, to become effective this year, were levied by the Pennsylvania Legislature last spring. Mine supplies, in which timber, steel and cement bulk largely, have come down somewhat so far as wholesale quotations at the point of production are concerned, but so far as delivered prices at the mines are concerned, they remain at old high levels.

"Without going into detail, it is perhaps sufficient to say that in a general way, anthracite producers find that such decreases as there have been in the quotations on supplies are just about balanced by the increased rates on freight, so that supplies when delivered maintain their old war-time levels."

#### STUDY OF FUEL VALUES SAVES 25 PER CENT

Dr. Henry M. Payne writes on "The Analysis of Coal—Factors That Enter Into Fuel Coal Selections" in part as follows:

"It has been a surprise to a great many managers and purchasing agents to learn that a study of fuel values, made at each individual plant, has resulted in a saving as great as 25 per cent in fuel consumption, with correspondingly decreased cost of freight, handling of ash and plant efficiency.

"In all these matters the average reputable coal company or wholesaler is glad to co-operate with the consumer and to render such service as will make for permanent trade relations.

"In buying an automobile or a mining machine, a pump or a generator, the purchaser usually exhausts the possibilities of the make under consideration, and because of the lump sum cost gives rigid instructions regarding the intelligent operation of the machine. In the purchase of fuel, whose cost is no less, and usually many times greater, only extended over a continuous period, a corresponding investigation and regular supervision will bring even higher returns.

"The principal classifications of our Eastern coals are now being more and more rigidly drawn by the tidewater coal exchanges operating at the various ports. If this work be supplemented by the consumer along the lines indicated, and with the proffered co-operation of the producer, the logical outcome will be closer and more intimate relations be-

tween the coal trade and the consumer and a corresponding confidence which cannot result in other than more stable market conditions."

Forecasting a larger demand for bituminous coal and narrow price fluctuations, W. R. Coyle, vice-president, Weston Dodson & Co., Inc., writes:

"Preliminary production figures indicate a total production from April 1 to July 15 of this year as being 111,989,000 tons as against a production in the same period last year of 147,268,000 tons of bituminous coal.

"The writer's conclusion is that daily production very nearly marks at all times the amount consumed in that day, and if we have produced less this year, when transportation has been free from interruption, it has been because less has been used, and the increasing demand when it comes will be due not so much to desire to store as to increase in immediate needs.

"The mine capacity to produce has never been taxed in this country for a long period. On the other hand, the capacity of the railroads to transport has very often been taxed. Today the railroads claim to have capacity to move nearly twice as much coal as is being produced and it is fairly safe to assume that as long as the buyer does not demand that they shall move more than their capacity, there will be no scramble for coal with consequent enhancement of the price.

"Barring a stampede, against which there is no insurance, the likely trend for the next six months is increasing volume within the range of prices marked by the low prices of today and the somewhat higher prices of last April. It is possible to buy good coal today cheaper than at any time in the last few years. It is not likely that good coal will go below these present low prices in the next six months. It is likely that they will go somewhat higher. Purchases for use within six months at present market cannot possibly be a mistake. It is a rare thing when it is ever bought for early delivery and used at a further deferred date."

#### Freight-Car Loadings Increase 24,184 in Week; Coal Movement Gains Heavily

THERE was an increase of 24,184 in the number of cars loaded with revenue freight during the week which ended Aug. 13, compared with the previous week, according to reports by the car service division of the American Railway Association.

Total loadings for the week were 808,965 cars, which was, however, 162,304 cars less than were loaded during the corresponding week in 1920 and 23,474 cars below the total for the corresponding week in 1919.

Increases in the loading of all commodities were reported. The principal gain was in the loading of coal, the total for the week being 158,260 cars, which was an increase of 10,987 cars over that for the preceding week. It was, however, 63,500 cars less than were loaded during the corresponding week last year.

Due principally to the increased demand for transportation facilities, a further decrease of 13,446 was reported in the number of freight cars temporarily out of service on Aug. 15, because of business conditions, compared with the total on Aug. 8. The number idle on Aug. 15 was 499,594, compared with 513,040 the week before.

Tabulations showed that of the total, 284,338 were serviceable freight cars, while the remaining 215,256 needed repairs. Surplus box cars in good order totaled 84,522 on Aug. 15, which was a decrease within a week of 4,071, while surplus coal cars which could be placed immediately in service, if freight conditions warranted, numbered 145,072, or 7,702 less than were reported on Aug. 8.

A reduction in the car shortage which has been reported at certain points was shown by the reports. On Aug. 15, this shortage was 2,125, or 1,239 below what it was on Aug. 8.

**WILL HELP MINE STRIKERS.**—On Aug. 22 the United Mine Workers' International Executive Board authorized the continuance of the strike in Mingo County, West Virginia, and promised support to the mine workers who are resisting a reduction in wage in western Washington.



## Federal Control of Coal Industry Provided in Newton Bill

Measure Introduced in the House by Representative from Minnesota Is Composite of Calder and LaFollette Coal Bills

JUST prior to the adjournment of Congress for a four weeks' recess, Representative Newton, of Minnesota, introduced a bill (H. R. 8405) providing for federal control of the coal industry. The bill is a combination of the original Calder bill and the La Follette bill which took the place of the Calder bill after the Senate hearings on that measure. Earlier in the session Representative Newton introduced the La Follette bill in identically the same form that it was reported out by the Senate Committee on Manufactures. In his present bill he picks up, with certain alterations, those sections of the original Calder bill which provide for the licensing of every operator and dealer in coal, the section empowering the Federal Trade Commission to determine when an emergency exists, the brokerage tax and the assignment of various duties to the Secretary of Labor, the Bureau of Mines, the Interstate Commerce Commission and the Geological Survey.

The brokerage-tax feature of the original Calder bill carried a proviso that no such taxes are to be paid by any dealer whose gross annual sales aggregate less than \$500,000. Mr. Newton has changed that proviso so that the tax shall not apply "to those transactions in coal in which the coal is physically handled by the seller." Mr. Newton then departs from the text of the Calder bill to insert a section making it unlawful for any person or corporation, delinquent for more than ten days in the shipment of contract coal, to offer spot coal for sale or to deal in options on spot coal at a higher price than the price specified in the contract on which there is a delinquency.

Mr. Newton's bill was referred to the Committee on Interstate and Foreign Commerce. Under present conditions it is certain that the committee would give no consideration to any bill of this character but it is recognized that if there were to be a serious shortage of coal this winter there would be considerable demand in the House for the reporting out of some type of coal regulation bill. It can be stated, however, that the treatment accorded comparatively mild Frelinghuysen bills is regarded as positive evidence that no such radical legislation as is proposed by Mr. Newton has any chance to proceed further than the committee's pigeonhole.

### British Miner Still Wants to Work Less

SOME of the items down for discussion at the annual conference of the Miners' Federation of Great Britain are causing concern in the more moderate labor circles. The three districts, Leicester, Nottingham and Scotland, will all put forward proposals for a working week maximum of five shifts, and the Midland Federation will press for the realization of a six-hour working day for miners, which, it will be remembered, was one of the conditional recommendations of the Sankey Commission.

There are other proposals which tend to show that the miners will attempt to lower the production per man in a mistaken endeavor to provide work for unemployed miners. Thus Durham is to propose that a "ballot of all pieceworkers be taken for the purpose of ascertaining whether they are in favor of abolishing all piecework in and about the mines." Again, the Northumberland district will put forward a resolution condemning "the present system of payment by results," and striving "for a national weekly wage for all mine workers." South Wales also will endeavor to do away with piecework in a resolution to "take the first opportunity available for the abolition of the piecework system for the payment of workmen in the mining industry."

The Midland Federation's resolution probably will be carried unanimously; this resolution states that the Fed-

eration "views with regret the failure of the government to introduce legislation for the purpose of nationalizing the mining industry, and reiterates its conviction that the industry will never be placed upon a satisfactory basis in the interests of the community until it is publicly owned and worked between the representatives of the state and the technical and manual workers engaged in it, and resolves to continue to educate and organize working-class opinion until the government is compelled to bring about this fundamental change in the ownership and management of the industries."

The general trend of these resolutions makes it apparent that the economic lessons of the strike were entirely lost on the miners.

### Opinion of Coal Producers Divided on Proposal to Organize Coal Exchange

AGITATION of the coal-exchange proposal has resulted in the National Coal Association's receiving numerous inquiries from its members in regard to the matter. No recent consideration has been given this problem by the National Association. It is known that coal producers are very much divided in their views on this subject.

It is from the ranks of the producers that the principal opposition against grain and cotton exchanges has sprung. Producers of those commodities tend to the belief that the bear influence on the exchange is more potent in the aggregate than is the bull influence. The result is a depression of price below the level that would have been attained had the exchange not existed. Such a contention is emphatically contradicted by many other interests and the great weight of opinion among disinterested students of marketing problems is that the exchanges are invaluable assets in the handling of any commodity.

Tabulating the probable advantages and disadvantages of the proposed exchange, George H. Cushing, managing director of the American Wholesale Coal Association, lists the advantages as follows:

1. It establishes, daily and by actual transactions, the prices commonly charged over a considerable territory.
2. By establishing prices, it gives, automatically, publicity to the prices on coal over the whole territory influenced by the exchange.
3. Prices, on an exchange, cannot be intelligent without a statement of "visible supply." Therefore, the exchange must have daily a statement of production, of shipments and of storage within the zone of influence of that exchange.
4. By open trading, it prevents the pyramiding of sales on a single lot of coal.
5. By careful grading, it assures the buyer the quality of coal he specifies.
6. By an inspection system, it prevents the rejection of coal, on an assumption of inferior quality, when the purpose is solely to break the price.
7. By policing the members of the exchange, it establishes a code of ethics in the industry and automatically eliminates many objectionable elements in the trade.
8. By laying, daily, all the facts of the coal industry—even as to future tendencies—before the public, it promises to avoid any need for legislation calling for information which is believed to lead, with a degree of sureness, to regulatory legislation.

9. By coupling pooling with open trading, it allows the coal industry to ship on open consignment to the pool and thus to avoid both demurrage and reconsigning charges without delaying the equipment of the carriers and without loading the industry with prohibitive charges. This would be accomplished without, necessarily, returning to the old practice of glutting the market with consignment coal.

The demerits and disadvantages of the exchange, as stated by Mr. Cushing, are:

1. The mere cost of administration must be at least 5c. a ton. If the inspection system is elaborate, it may cost more.
2. The tendency of pooling of coal—unless carefully provided against—is to destroy the good will of a coal com-

pany by subordinating, if not eliminating, trade names and trade-marked brands.

3. The tendency of pools—unless carefully guarded against—is to abolish differentials as to price between certain coals, thus giving an artificial advantage to some and an artificial disadvantage to others.

4. It must remain optional with traders whether they deal through or independent of the exchange. The percentage in or out of the exchange at any time will determine its success or failure. And the cost of doing business through the exchange—measured against the benefits—must determine which way a trader will trade.

5. It provides, at all times, an organization which can be reached by the officers of the government who may take it over, in emergencies, to carry out their ideas as to distribution.

6. Since the government is already regulating the grain exchange and is talking of either regulating or suppressing the exchanges in other commodities, the coal industry by forming an exchange may automatically fall under the very regulation it is trying to avoid.

## Union Orders Kansas Miners Back to Work

WHEN the men of the Dean Milling Co. and the Reliance Coal Co., both of which companies operate a mine, went on strike no effort was made by the mine workers to avoid the suspension by prior negotiation such as the union agreement requires. The union officials at Indianapolis desired Alex. Howat, president of the district, to go to headquarters to discuss matters, and he arrived Aug. 16. As a result of the deliberations the strike was outlawed, and the men were told to go back to work Aug. 22.

The Industrial Court of Kansas on the same day held a conference with Charles I. Martin, Adjutant General, to determine what should be done if Alex. Howat should go to jail Sept. 8, as he has stated he will. A strike of mine workers probably would follow, and the Industrial Court is alert to prevent such a violation of the Industrial Relations Law of the State.

In a statement issued Aug. 25 Alex. Howat affirmed reports that he would refuse to give bond restraining him from calling a strike as a condition to avoid being committed to jail on Sept. 8.

Howat will further refuse, according to his statement, to order back to work the striking miners of the Dean and Reliance strip mines, as demanded by the International Executive Board of the mine workers at Indianapolis.

"My position is unchanged," he said. "District 14 may be suspended from the organization or I may be kicked out of office, but the only way I would consent to put the men back to work would be under the customs and conditions that prevailed when the men quit work. In spite of the operators and our international organization, I do not propose for them to take away the working conditions for which the miners have sacrificed and struggled for years."

THE NATIONAL COAL ASSOCIATION expects to call a meeting during the latter part of September of the secretaries of local coal associations. The date and place of meeting have not been set. J. D. A. Morrow, vice-president of the national association, states that conditions in the coal industry have reached the point where only efficient producers can survive. Under these conditions, there is the most imperative need, he says, for the greatest accuracy in all details of cost accounting. The sole object of calling the secretaries together is to discuss the cost-accounting matter and to point out that it is the local secretary who must bear a considerable portion of the blame if one of his members meet disaster through lack of knowledge as to costs.

ANOTHER WEST VIRGINIA WAGE READJUSTMENT.—The only wage adjustment reported from the New River district recently has been at the Lookout mine, under the management of D. W. Boone. This is a non-union operation, and the men have accepted a decrease per ton of 50c. in the mining of coal and \$2 per day where paid by that method of reckoning.

## W. J. Rainey's Miners Still on Strike

ON AUG. 18 W. J. Rainey, Inc., posted a notice of another wage reduction effective next day. The result was that the men at their Allison plant did not go to work that day, the men at Mt. Braddock came out next day, Saturday, and on Monday the men at Revere and Royal plants did not work.

The present scale with a few exceptions is the same as the wage scale adopted in the coke region generally May 17, 1917. For comparison the following wage scales are given: The scale generally adopted in the region May 17, 1917, the highest scale reached in the region which was generally adopted on Sept. 1, 1920, the last previous scale adopted by Rainey on July 1, 1921, which was also put in force by many of the other independent companies, the scale of Aug. 19, 1921, which caused the strike, and the scale now being paid by the H. C. Frick Coke Co., and which was adopted by them Aug. 1, 1921:

SOME COMPARATIVE MINING SCALES

	General Scale May 17, 1917	Highest General Scale Sept. 1, 1920	Rainey's Scale July 1, 1921	Rainey's New Scale Aug. 19, 1921	H.C. Frick Coke Co. Scale Aug. 1, 1921
Pick Mining and Loading, per 100 bu.					
Room and rib coal.....	\$2.00	\$3.24	\$2.06	\$2.00	\$2.38
Heading coal.....	2.20	3.56	2.26	2.20	2.63
Wet heading coal.....	2.38	3.85	2.44	2.38	2.77
Loading machine.....	1.40	2.10	1.48	1.40	1.50
Per day					
Drivers, tracklayers, etc....	3.80	7.50	4.50	3.80	5.00
Other inside labor.....	3.00	6.55	3.75	3.00	4.15
Firebosses.....	4.60	8.80	6.25	6.25	6.30
Common outside labor.....	3.00	5.90	3.00	2.55	3.00

None of the other independent companies has as yet followed Rainey's last lead, as they probably are waiting to see the outcome of the Rainey strike and what the Frick company will do as a result of the announcement that appeared in the press a few days ago that on Aug. 29 the Steel Corporation would make a wage reduction reverting back to the scale of wages that became effective May 1, 1917. If the Frick company takes this action on Aug. 29 or Sept. 1, it will bring the wages paid by that company down to about the same scale as that just adopted by the Rainey company. Late reports show all the eight Rainey-Connellsville region plants on strike. It is said that the Frick company will not reduce wages at this time.

## Navy Defers Until Sept. 6 Opening of Bids On Six Months' Bituminous Supply

BIDS which were to have been opened by the Navy Department Aug. 23 for a six months' supply of bituminous coal for delivery beginning in October, were returned to bidders and the opening deferred until Sept. 6. This was due to the action of the department in eliminating the clause in the specifications making the bids subject to increases or decreases in wage scales. The department says there have been wage adjustments in some bituminous fields and there is a possibility of changes in other fields effective prior to October.

The Navy clause as to wages stipulated that the prices would be subject to increase or decrease in the wage scale in the fields from which obtained, and under this bids would have been based on wage schedules in force Aug. 23, when the bids were to have been opened. The department points out that where reduction of wages has already become effective operators in such fields would enjoy an undue advantage over those in other fields where no reduction in wages has been made although one may be contemplated. To place all operators on a fair and equal footing the bids were postponed and the wage clause eliminated.

The department, however, received bids on Aug. 23 for anthracite from the Philadelphia & Reading Coal & Iron Co., the Newport (R. I.) Coal Co., the Nottingham & Wrenn Co., of Norfolk; the Weston Dodson & Co., Bethlehem, Pa., and the H. W. B. Haff Co., New York, on small quantities for delivery at Washington, D. C.; Hampton Roads, Newport, Submarine Base, Lake Denmark, Norfolk, Philadelphia, Fort Mifflin, Lakehurst and White Plains.



## Mine Workers' March on Mingo Stopped

A BAND of West Virginia mine workers, variously estimated between 4,000 and 6,000, many of them with arms, started from Marmet in the morning of Aug. 25 for Mingo County. Marmet is only twelve miles from Charleston and on the south shore of the Kanawha River, where the West Virginia & Southern R.R. joins the Chesapeake & Ohio Ry. "Mother Jones" was a visitor to the Marmet camp and had the men ready to do anything to end martial law and all laws in Mingo County.

Williamson is fifty-seven miles as the crow flies from Marmet and is about eighty miles by the road. As the trip was sure to take several days the marchers looted stores. Some traveled in automobiles, others in wagons and many on foot. Before the invading host many of the women and old men fled to the towns and the men of fighting age joined either the marchers or the defenders.

The invaders bought some of the rifles they carried. There is a story that two miners in automobile trucks purchased \$5,000 of rifles in a Huntington hardware store. Other rifles were obtained by looting. Josiah Keely, manager of the Cabin Creek Consolidated Coal Co., and his store manager, George Baker, were held up by fifty masked men and compelled to surrender twelve high-powered rifles and a large quantity of shells. A store at Edwight, in Raleigh County, was robbed of two machine guns and all ammunition. At Maxine, Sharlow, Cedar Grove, Acme, Red Warrior, Quarrier and other places all rifles and ammunition were taken. Freight trains had been commandeered on the Cabin Creek and Coal River divisions to take the mine workers to the rendezvous.

### MARCHING MINE WORKERS INVADE ENEMY COUNTRY

The mine workers crossed into Boone County—"enemy country"—on the first day, reaching Racine on Coal Creek and Rock Creek on Little Coal Creek without interference. One man was killed for spying on the mine workers' army, but this probably was before it started. He was a union miner at Eastbank, upstream from Marmet on the Kanawha River. His head was blown off because he gave information to officials and newspapermen. It also is stated that another man was shot for the same offense.

Two planes owned by coal operators which followed the movements of the "army" were fired on near Madison, in Boone County. The deputy sheriffs in the planes did not return the fire though the wings of the machine were pierced by bullets. During the night of Aug. 26 and the whole of Aug. 27 the deputies of Sheriff Don Chafin of Logan County fought at intervals with the invaders. He sent out for help, and it was said that McDowell County sent 500 men by automobiles and that 125 special state police, militiamen and deputies left Mingo County at day-break for the scene. A band of 1,200 men crossed the line at Sharples, seized a special train sent to carry them home and ran it to the Coal River terminal branch near Blair.

All this time Governor Morgan was endeavoring to obtain 1,000 Federal troops from Washington, but the government declared itself unwilling to do anything without investigation. In Ohio and Kentucky, however, troops were held ready for quick dispatch. Brigadier General H. H. Bandholtz, former provost marshal general of the American Expeditionary Force and now commander of the Washington (D. C.) district, and Lieutenant Colonel Stanley H. Ford were sent to Charleston to ascertain the facts.

These officers appear to have done little scouting around. They summoned C. E. Keeney, president of district 17, and Fred Mooney, the vice-president, on Aug. 26, and told them that it was useless to say they did not care what the mine workers did; they had organized them and if martial law were declared they would have to control them or stand the consequences. No excuses that they had not authorized the unlawful acts would serve. They were responsible and would be so held. This made the officers of the union active. Accordingly Keeney left Charleston for Madison and induced most of the mine workers to return. They could not hold all the men, but they held enough to make the advance more or less of a fiasco. A train at Racine took a number of the marchers back to their homes.

On Aug. 28 there was a clash between deputy sheriffs and mine workers at Sharples, across the Logan County line from Boone. Five miners were shot and three deputies and a justice of the peace were captured. John H. Char-nock, new Adjutant General of the West Virginia National Guard, and three union officials left Charleston late on Aug. 28 to induce these irreconcilables to return, like the others, to their homes.

## Hoover Has Difficulty in Finding Man Qualified for Coal Commodity Chief

HERBERT HOOVER, Secretary of Commerce, is having great difficulty in finding a properly qualified man to serve as his coal commodity chief. The \$5,000 salary which goes with the position fails to interest the type of man for which Mr. Hoover is looking. It is developing that comparatively few coal men in the United States have given specialized attention to the export end of the business.

Despite the fact that a chief for the coal division has not been found, there has been no delay in the general plans for carrying forward the coal work. A co-operative arrangement with the Bureau of Mines is under consideration, in which it is proposed that the bureau work out some of the technical matters which must be solved before the Department of Commerce can carry out fully the program it is arranging. Under such a co-operative arrangement the idea is to learn more definitely why certain coals will or will not store. There are a number of engineering problems which must be worked out in connection with the storage of coal. There is also the matter as to what extent it is feasible to establish grades of quality. It is recognized that systematic steps must be taken to build up a good name for American coals in foreign markets.

## Labor Department Seeks Data on Cost-of-Living Figures in Fixing Wage Scales

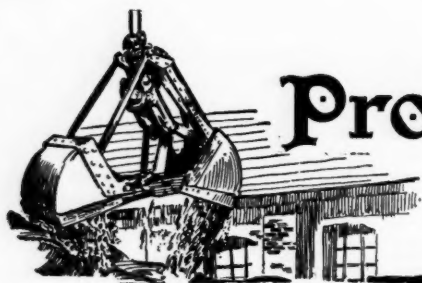
THE Department of Labor, through the Bureau of Labor Statistics, is making a study of the methods of adjusting wage scales and concluding collective wage agreements where cost-of-living figures enter into the wage adjustment. To that end, the Bureau of Labor Statistics wishes to communicate with the various companies, members of arbitration boards, labor managers or others who are using cost-of-living figures in the determination of wage awards.

If any reader of *Coal Age*, who has not already communicated with the Bureau, is using cost-of-living figures in the adjustment of wages, it will be appreciated by the bureau if he will write to the Commissioner of Labor Statistics, Washington, D. C., and inform him of that fact.

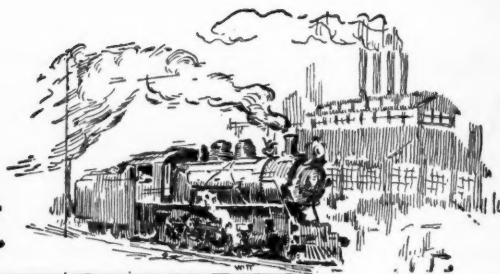
## W. R. Coyle Elected Trustee in Bankruptcy Of Old Tidewater Coal Exchange

MAJOR W. R. COYLE, vice-president of Weston Dodson Co., Inc., with offices in the Woolworth Building, New York City, was elected trustee in bankruptcy by the creditors of the old Tidewater Coal Exchange on Aug. 25. The meeting of creditors was held in the office of Peter B. Olney, referee in bankruptcy, 68 William St., and was largely attended. It is understood that the representatives of the railroads favored Frank E. Wright, of Boston, for the trusteeship. If no objections are filed within ten days, the name of Major Coyle will be submitted to the court for final action.

THE SENATE COMMITTEE ON EDUCATION AND LABOR probably will take testimony at Mingo, W. Va., soon in its investigation of the mine troubles that have existed there for some time. The committee recently conducted an investigation in Washington, but Chairman Kenyon intimates that it will be necessary for the committee to take evidence at Mingo in order to obtain information necessary to complete its report, which will be presented to the Senate later.



# Production and the Market



## Weekly Review

**S**OMEWHAT general but relatively small increases in production of bituminous coal in the past three weeks, over the corresponding weeks of July have only tantalized the market. In the Middle West there has been a real stimulus to the domestic demand for lump and prepared coals, but the output of sized product to meet the demand has again thrown a surplus of screenings on the market and distress sales are quite common in Chicago territory. This condition extends east into Ohio and south into Kentucky. In the Appalachians, particularly in Pennsylvania, some improvement in demand for run-of-mine steam bolstered prices slightly, but not sufficient to affect the *Coal Age* weekly index of spot prices of bituminous coal, which on Aug. 29 was 90, unchanged from the previous week.

A year ago the output of soft coal was 11,813,000 tons in the second week of August; this year it was 7,756,000 tons, or 70 per cent as much. A year ago Illinois and Indiana mines were reporting operation at 60 to 68 per cent of full time; this year it is 40 per cent of full time—that is to say, the country as a whole is producing 70 per cent of last year's tonnage of bituminous coal and the largest fields in the Middle West are doing around 66 per cent of last year's record. By the same standards, southern Ohio is doing half as well as last year, eastern Ohio 85 per cent, Pittsburgh less than one-

third as well. Somerset County, the large non-union district, is working better time now than last year. The Pocahontas field is working 75 per cent of last year's rate, the high-volatile fields in southern West Virginia at about half last year's feverish speed. The important point to bear in mind, in comparing this year with 1920, is that lack of orders now dominates the market; a year ago it was lack of cars in which to load the coal.

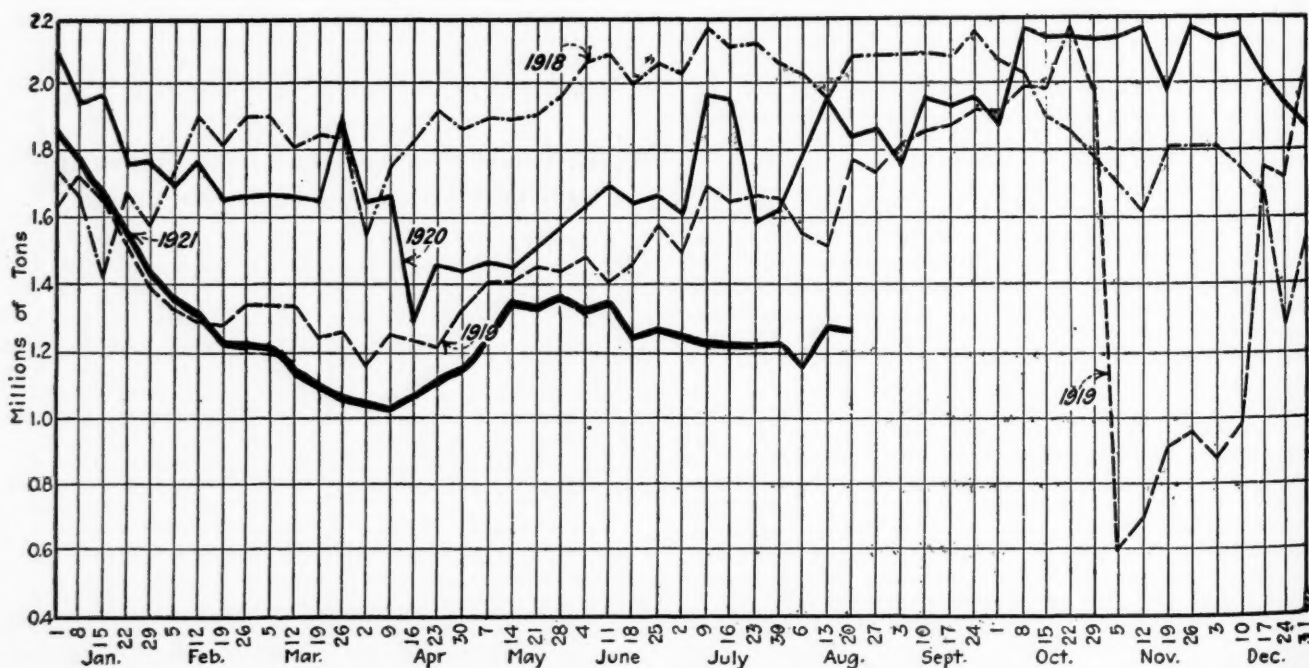
### COAL MOVEMENT INCREASES ENCOURAGINGLY

Encouraging signs are found in the better movement off upper Lake docks to interior points, more cars of coal going into New England and more railroad buying. Dumpings for up Lake are easing off but exports through Hampton Roads have picked up—not, however, as a result of any new business.

Anthracite, dropping in the week of Aug. 20 because of general observance of a religious holiday to 1,529,000 net tons, is not in as steady demand as earlier in the season and as it will be with cold weather.

The mine-cave tax bills of the State of Pennsylvania having become effective last Saturday, Aug. 27, it is reported that the Glen Alden Mining Co. closed three collieries and the Price Pancoast Coal Co., one mine, that, in the opinion of these companies cannot be operated under the law. It is too early yet to determine whether

Daily Average Production of Bituminous Coal\*



\*From weekly report of Geological Survey.



the operation of this law will seriously affect anthracite production.

Labor troubles in Indiana, West Virginia and Pennsylvania have had no effect on production nor have they influenced the market. The West Virginia trouble is a continuation of the effort to unionize the Kenova-Thacker field; the Indiana disturbance is reported as due to some radicals getting out of hand. The Governor of Indiana has called a conference to settle the matter.

### BITUMINOUS

A slight decline in production marked the week ended Aug. 20. According to the Geological Survey, 7,704,000 net tons were produced, as compared with 7,756,000 the last preceding week. Preliminary reports for the last week of August indicate an increasing output for that period.

Domestic demand has picked up considerably of late. Retailers report a better call from small consumers, although deliveries from the yards are still far from normal, as compared with other seasons. Dealers are replenishing their yard stocks and the call on the mines for more domestic has, of course, thrown a larger tonnage of steam sizes on the market. That industrial consumption in general is now keeping pace with this increased tonnage is apparent from

the larger number of distress coal offerings in those sections using domestic bituminous.

Bargain prices, however, only cause the buyer to feel more uncertain as to the future, in the belief that quotations may even be forced down another peg. This is especially true in New England, where water-borne coal from the Pocahontas and New River region, because of the low marine freight rates, has caused slashing reductions in the all-rail central Pennsylvania fuels. Tight buying all around has resulted. The cuts of central Pennsylvania shippers are almost fruitless, however, as to compete with the Hampton Roads shippers would mean a price in the neighborhood of \$1 per gross ton, f.o.b. mines.

### CARS OF COAL FORWARDED OVER THE HUDSON TO EASTERN NEW YORK AND NEW ENGLAND

Week Ended	1921		1920	
	Anthracite	Bituminous	Anthracite	Bituminous
August 6.....	2,609	2,780	1,863	6,732
August 13.....	2,313	2,560	2,230	6,124
August 20.....	2,460	2,982	2,976	5,369

Movement of coal into that part of the Northwest served by the Head-of-the-Lakes docks is increasing rapidly, as shown in the following table. During July 13,448 cars were shipped inland, as compared with 9,557 cars in June. The year's movement, however, is much less than any in the last six years. Lake receipts are still heavier than the outgo and docks are nearly filled to capacity. It is appar-

### Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F. O. B. Mines

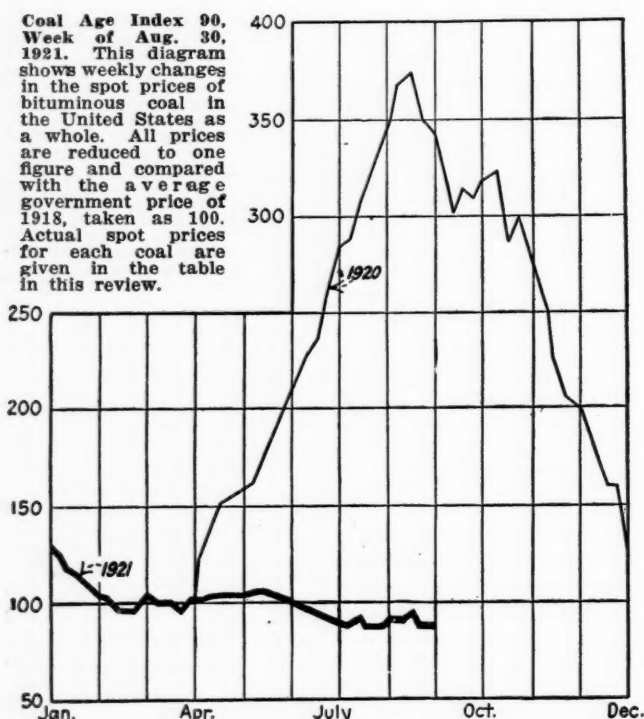
Low-Volatile, Eastern		Market Quoted	July, 1921	Aug. 16, 1921	Aug. 23, 1921	Aug. 30, 1921†		Market Quoted	July 26, 1921	Aug. 16, 1921	Aug. 23, 1921	Aug. 30, 1921†	
Pocahontas lump.....	Columbus.....	\$5.40	\$5.20	\$5.25	<b>\$5.10@</b>	<b>\$5.50</b>	Pitts. No. 8 mine run.....	Cleveland.....	\$2.20	\$2.30	\$2.30	<b>\$2.25@</b>	<b>\$2.35</b>
Pocahontas mine run.....	Columbus.....	3.15	3.00	3.10	3.00@	3.25	Pitts. No. 8 screenings.....	Cleveland.....	1.35	1.80	1.85	<b>1.65@</b>	<b>1.75</b>
Pocahontas screenings.....	Columbus.....	2.30	2.40	2.45	<i>2.25@</i>	<i>2.55</i>	<b>Midwest</b>						
Pocahontas lump.....	Chicago.....	5.15	5.25	5.00	<i>4.75@</i>	<i>5.25</i>	Franklin, Ill. lump.....	Chicago.....	3.55	3.80	3.55	<b>3.25@</b>	<b>4.05</b>
Pocahontas mine run.....	Chicago.....	3.15	3.00	2.75	2.25@	3.25	Franklin, Ill. mine run.....	Chicago.....	3.15	3.30	2.80	2.25@	3.50
*Smokeless mine run.....	Boston.....	5.70	5.60	5.45	<i>5.00@</i>	<i>5.25</i>	Franklin, Ill. screenings.....	Chicago.....	1.90	1.75	1.90	<b>1.25@</b>	<b>2.65</b>
Clearfield mine run.....	Boston.....	1.95	1.90	1.75	<b>1.50@</b>	<b>2.10</b>	Central, Ill. lump.....	Chicago.....	2.50	2.90	2.50	<b>2.40@</b>	<b>3.00</b>
Cambria mine run.....	Boston.....	2.70	2.55	2.45	2.15@	2.75	Central, Ill. mine run.....	Chicago.....	2.25	2.15	2.40	<b>2.00@</b>	<b>2.75</b>
Somerset mine run.....	Boston.....	1.75	1.70	1.60	1.50@	1.85	Central, Ill. screenings.....	Chicago.....	1.60	1.55	1.65	<b>1.25@</b>	<b>2.25</b>
Pool 1 (Navy Standard)...	New York.....	3.15	3.15	3.20	<b>3.00@</b>	<b>3.50</b>	Ind. 4th Vein lump.....	Chicago.....	3.65	3.60	2.95	<b>2.35@</b>	<b>3.50</b>
Pool 1 (Navy Standard)...	Philadelphia..	2.80	2.95	2.95	2.85@	3.00	Ind. 4th Vein mine run.....	Chicago.....	3.05	3.10	2.50	<b>2.25@</b>	<b>2.75</b>
Pool 1 (Navy Standard)...	Baltimore.....	2.45	2.50	2.50	2.50	2.50	Ind. 4th Vein screenings.....	Chicago.....	2.15	2.15	1.60	<b>1.25@</b>	<b>2.15</b>
Pool 9 (Super. Low Vol.)...	New York.....	2.50	2.55	2.55	<i>2.25@</i>	<i>2.75</i>	Ind. 5th Vein lump.....	Chicago.....	2.90	2.90	2.75	<b>2.50@</b>	<b>3.25</b>
Pool 9 (Super. Low Vol.)...	Philadelphia..	2.40	2.35	2.35	2.25@	2.40	Ind. 5th Vein mine run.....	Chicago.....	2.60	2.45	2.40	<b>2.00@</b>	<b>2.75</b>
Pool 9 (Super. Low Vol.)...	Baltimore.....	2.20	2.25	2.30	<i>2.00@</i>	<i>2.25</i>	Ind. 5th Vein screenings.....	Chicago.....	1.90	1.65	1.75	<b>1.35@</b>	<b>2.15</b>
Pool 10 (H. Gr. Low Vol.)...	New York.....	2.25	2.25	2.35	<i>2.00@</i>	<i>2.25</i>	Standard lump.....	St. Louis.....	2.25	2.65	2.65	<i>2.10@</i>	<i>2.75</i>
Pool 10 (H. Gr. Low Vol.)...	Philadelphia..	2.20	2.05	2.05	1.90@	2.15	Standard mine run.....	St. Louis.....	1.70	1.75	1.85	<b>1.75@</b>	<b>1.90</b>
Pool 10 (H. Gr. Low Vol.)...	Baltimore.....	2.00	2.10	2.15	<i>2.00</i>		Standard screenings.....	St. Louis.....	1.00	1.10	1.00	<i>0.90@</i>	<i>1.00</i>
Pool 11 (Low Vol.).....	New York.....	1.90	1.95	2.05	<i>1.75@</i>	<i>2.00</i>	West Ky. lump.....	Louisville.....	2.90	3.00	3.25	<i>2.75@</i>	<i>3.40</i>
Pool 11 (Low Vol.).....	Philadelphia..	1.90	1.75	1.80	<i>1.75@</i>	<i>1.85</i>	West Ky. mine run.....	Louisville.....	2.30	2.45	2.65	<i>2.15@</i>	<i>2.75</i>
Pool 11 (Low Vol.).....	Baltimore.....	1.75	1.75	1.85	<i>1.75@</i>	<i>1.85</i>	West Ky. screenings.....	Louisville.....	1.55	1.70	1.65	<i>1.00@</i>	<i>2.00</i>
<b>High-Volatile, Eastern</b>							<b>South and Southwest</b>						
Pool 54-64 (Gas and St.)...	New York.....	1.70	1.85	1.95	<i>1.75@</i>	<i>2.00</i>	Big Seam lump.....	Birmingham..	3.55	3.75	3.75	<b>3.25@</b>	<b>4.20</b>
Pool 54-64 (Gas and St.)...	Philadelphia..	1.75	1.65	1.70	1.60@	1.75	Big Seam mine run.....	Birmingham..	2.15	2.15	2.15	<i>2.00@</i>	<i>2.20</i>
Pool 54-64 (Gas and St.)...	Baltimore.....	1.50	1.60	1.65	<i>1.50@</i>	<i>1.70</i>	Big Seam (washed).....	Birmingham..	2.35	2.40	2.40	<i>2.25@</i>	<i>2.40</i>
Pittsburgh sc'd gas.....	Pittsburgh.....	2.95	2.70	2.70	<i>2.55@</i>	<i>2.75</i>	S. E. Ky. lump.....	Louisville.....	3.15	3.65	3.65	<b>3.50@</b>	<b>3.75</b>
Pittsburgh mine run (St.)...	Pittsburgh.....	2.10	2.10	2.10	<b>2.20@</b>	<b>2.30</b>	S. E. Ky. mine run.....	Louisville.....	2.20	2.35	2.35	<b>2.15@</b>	<b>2.40</b>
Pittsburgh slack (Gas)....	Pittsburgh.....	1.45	1.70	1.70	1.65@	1.75	S. E. Ky. screenings.....	Louisville.....	1.35	1.70	1.55	<b>1.40@</b>	<b>1.70</b>
Kanawha lump.....	Columbus.....	3.15	3.45	3.45	<b>3.25@</b>	<b>3.70</b>	Kansas lump.....	Kansas City...	5.50	5.65	.....	.....	.....
Kanawha mine run.....	Columbus.....	2.15	2.10	2.15	2.00@	2.25	Kansas mine run.....	Kansas City...	4.40	4.40	.....	.....	.....
Kanawha screenings.....	Columbus.....	1.20	1.50	1.55	<i>1.20@</i>	<i>1.35</i>	Kansas screenings.....	Kansas City...	3.25	3.25	.....	.....	.....
Hocking lump.....	Columbus.....	3.15	3.15	3.15	<b>3.00@</b>	<b>3.40</b>	*Gross tons, f.o.b. vessel, Hampton Roads.						
Hocking mine run.....	Columbus.....	2.15	2.15	2.15	2.00@	2.25	†Advance over previous week shown in heavy type, declines in italics.						
Hocking screenings.....	Columbus.....	1.30	1.50	1.60	<i>1.25@</i>	<i>1.40</i>							
Pitts. No. 8 lump.....	Cleveland.....	3.25	3.25	3.25	3.00@	3.50							

### Current Quotations—Spot Prices, Anthracite—Gross Tons, F. O. B. Mines

	Market Quoted	Freight Rates	Aug. 16, 1921		Aug. 23, 1921		Aug. 30, 1921†	
			Independent	Company	Independent	Company	Independent	Company
Broken.....	New York.....	\$2.61	.....	\$7.50@7.75	.....	\$7.50@7.75	.....	\$7.50@7.75
Broken.....	Philadelphia.....	2.66	\$7.50@8.20	7.65@7.85	\$7.50@8.20	7.65@7.85	\$7.50@8.20	7.65@7.85
*Broken.....	Chicago.....	5.62	12.40	12.55	12.75	12.65	12.75	12.65
Egg.....	New York.....	2.61	7.30@7.75	7.50@7.75	7.40@7.75	7.50@7.75	7.60@7.75	7.50@7.75
Egg.....	Philadelphia.....	2.66	7.60@8.20	7.65@7.85	7.60@8.20	7.65@7.85	7.60@8.20	7.65@7.85
*Egg.....	Chicago.....	5.62	12.40	12.55	12.80	12.65	12.80	12.65
Stove.....	New York.....	2.61	7.80@8.25	7.80@8.10	7.80@8.35	7.80@8.10	7.80@8.50	7.80@8.10
Stove.....	Philadelphia.....	2.66	8.00@8.35	7.95@8.25	8.00@8.35	7.95@8.25	8.00@8.35	7.95@8.25
*Stove.....	Chicago.....	5.62	12.70	12.80	13.40	12.90	13.40	12.90
Chestnut.....	New York.....	2.61	7.25@7.75	7.80@8.10	7.35@7.80	7.80@8.10	7.60@8.00	7.80@8.10
Chestnut.....	Philadelphia.....	2.66	7.75@8.00	7.95@8.25	7.75@8.00	7.95@8.25	7.75@8.00	7.95@8.25
*Chestnut.....	Chicago.....	5.62	12.75	12.90	13.10	12.90	13.10	12.90
Pea.....	New York.....	2.47	4.50@5.25	6.05@6.45	4.50@5.75	6.05@6.45	4.50@5.75	6.05@6.45
*Pea.....	Philadelphia.....	2.38	4.50@5.50	6.10@6.20	4.50@5.50	6.10@6.40	4.50@5.50	6.10@6.40
.....	Chicago.....	5.62	11.10	11.25	11.10	11.00	11.10	11.00
Buckwheat No. 1.....	New York.....	2.47	2.50@3.25	3.50	2.35@3.50	3.50	3.00@3.50	3.50
Buckwheat No. 1.....	Philadelphia.....	2.38	2.50@3.00	3.50	2.50@3.00	3.50	2.50@3.00	3.50
.....	New York.....	2.47	1.50@2.25	2.50	1.75@2.50	2.50	2.00@2.50	2.50
Rice.....	Philadelphia.....	2.38	1.75@2.00	2.50	1.75@2.00	2.50	1.75@2.00	2.50
Barley.....	New York.....	2.47	0.90@1.25	1.50	1.00@1.50	1.50	1.25@1.50	1.50
Barley.....	Philadelphia.....	2.38	0.75@1.25	1.50	0.75@1.25	1.50	1.00@1.25	1.50
Birdseye.....	New York.....	2.47	.....	2.50	.....	2.50	.....	2.50

\*Prices and freight rates, net tons; quotations f.o.b. cars, Chicago.

†Advances over previous week shown in heavy type, declines in italics.



ent that there will not be a bituminous shortage in that section this winter, although it is desirable that the interior market move as much coal as possible, in order that dock replacements may be made during the remainder of the period of navigation.

#### CARLOADS OF COAL MOVED INLAND FROM DULUTH-SUPERIOR HARBOR (a)

(Figures include both anthracite and bituminous coal)

Month	1916	1917	1918	1919	1920	1921
January.....	31,775	30,707	30,123	20,430	35,008	8,403
February.....	34,416	26,112	22,227	12,435	32,202	8,164
March.....	24,732	27,043	13,457	13,441	20,177	7,450
April.....	14,410	14,116	10,990	13,009	10,400	5,831
May.....	16,988	16,389	12,913	12,067	8,844	7,883
June.....	15,545	19,377	20,895	14,994	10,401	9,557
July.....	14,419	16,927	22,768	17,293	15,052	13,448

Total to July 31 152,285 150,671 133,373 103,669 132,084 60,736  
(a) Furnished to the Geological Survey by the Western Weighing and Inspection Bureau.

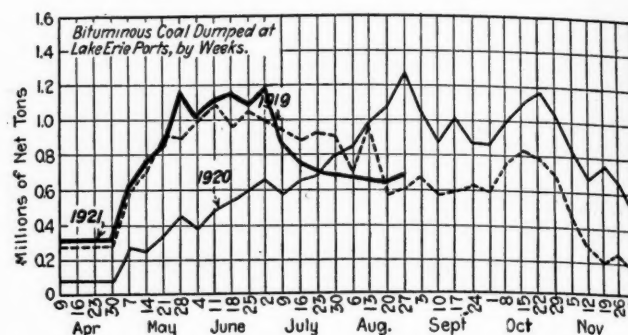
Lake dumpings increased slightly during the week ended Aug. 27, when 673,176 net tons of cargo and 23,693 tons of vessel fuel were dumped, a total of 696,869 tons as compared with 649,224 tons dumped in the preceding week. Cumulative dumpings for the season to date are 16,134,915 tons as against 10,924,327 tons in 1920.

The export market is unchanged. Demand is practically nil, especially on the high-volatiles. Prices at the piers have been depressed further, but business is simply lacking and orders have not resulted. Dumpings at the Hampton Roads piers amounted to 269,525 gross tons during the week ended Aug. 25. Although this represents an increase of 60,000 tons over the preceding week, the cleanup of some of the Tidewater accumulation is largely responsible. Present exports are less than one-sixth of the June maximum.

#### ANTHRACITE

Production declined sharply during the week ended Aug. 20. The total output was 1,529,000 net tons, as compared with 1,772,000 in the week preceding. Observance of a religious holiday on Aug. 15 was the principal cause of the decline, as last year also the week was marked by a slump in tonnage produced.

Ordering of domestic sizes by retailers was better during the closing days of August, due not so much to any great rush of householders' business as a desire to secure the August circular. At the same time retailers state that there has been some pick-up to their business, although it is still far below normal for this time of the year. Independents have advanced slightly on the family sizes with the better call. Steam coals have improved their position



with the approach of autumn. Barley is in greatest demand. Lake dumpings continue heavy—during the week ended Aug. 24 the Buffalo piers dumped 172,400 net tons. Shippers apparently are determined to push the tonnage through this gateway until the all-rail markets regain their strength.

#### COKE

Production of beehive coke was 57,000 net tons during the week ended Aug. 20, according to the Geological Survey, or a slight increase over the preceding week's figures of 50,000 tons. The industry is still in a state of great depression, however, as shown by the fact that the output for the week was 14,000 tons less than the daily average in the corresponding week of 1920. Cumulative production for the calendar year to date is 3,724,000 tons, only 27 per cent of that for 1920.

Byproduct offerings still hinder the beehive coke industry from participating in the slightly improved market. These interests are even quoting competitively on inquiries coming in because of the possible early resumption of some blast furnaces. Connellsville quotations on Aug. 30 were: Spot furnace, \$2.90@\$3; contract furnace, \$3@\$3.25; spot foundry, \$4@\$4.50.

The Rainey interests, in announcing a further reduction of wages, encountered a strike, which has closed down six plants in Fayette County, Pennsylvania, and thrown more than 2,000 men out of employment.

### Estimates of Production

FROM THE WEEKLY REPORT OF THE GEOLOGICAL SURVEY  
(NET TONS)

#### BITUMINOUS COAL

Total Bituminous, Including Coal Coked

	1921	1920
	Week	Week
Aug. 6b.....	7,186,000	10,432,000
Daily average.....	1,198,000	1,739,000
Aug. 13b.....	7,756,000	11,813,000
Daily average.....	1,293,000	1,969,000
Aug. 20c.....	7,704,000	11,039,000
Daily average.....	1,284,000	1,840,000

(a) Less 2 days' production during New Year's week to equalize number of days covered for the two years. (b) Revised from last report. (c) Subject to revision.

#### ANTHRACITE

	1921	1920
	Week Ended	Week Ended
August 6.....	1,564,000	1,805,000
August 13.....	1,772,000	1,851,000
August 20.....	1,529,000	1,640,000

(a) Less 2 days' production during New Year's week to equalize number of days covered for the last two years.

#### BEEHIVE COKE

	1921	1920
	Week Ended	Week Ended
Aug. 20 1921(a)	57,000	425,000
Aug. 13 1921(b)	50,000	3,724,000
Aug. 21 1920	425,000	13,656,000

(a) Subject to revision. (b) Revised from last report. (c) Less two days' production during New Year's week to equalize number of days covered for the last two years.



## Foreign Market And Export News

### British Industry Unable to Absorb Rapidly Increasing Output of Coal

**Export Market Sought by Great Britain—French to Deliver  
Saar Coal to Germany—Ruhr Output Gaining—Hampton  
Roads Activities Confined Largely to Bunker Account**

As cabled to *Coal Age*, production in the United Kingdom for the week ended Aug 13 was 4,537,000 gross tons, an increase of 900,000 tons over the preceding week and within 80,000 tons of the figure for the week ended July 30, which was the heaviest since the strike. The industry is recovering rapidly from the effects of the strike and production is as heavy as it was a year ago.

With many iron and steel foundries shut down, England has much coal seeking a market, which is being obtained at the expense of American shippers. The present cost of the American dollar in foreign exchange is playing directly into the hands of British exporters. Cardiff coal exports for the week ended Aug. 20 were 213,000 tons, the largest during the present year. The total includes 16,000 tons to Argentine, and 7,000 tons to Karachi and South Wales.

The market is quiet, and buyers are holding off. Exporters believe that the present selling prices approximate production cost and although quotations may weaken with the sluggish demand, not much decline is looked for.

There is a general opinion among miners, railwaymen and transport workers that the Triple Alliance will be dissolved as a result of its failure to organize a national strike in support of the miners. The actual breaking up of the Alliance will be deferred until the prospects have been ascertained of the formation of a Labor Council, comprising the men's unions in the labor movement.

There is a good deal of distress among miners in Scotland, especially in Lanarkshire, due to the difficulties ex-

perienced in reopening some of the pits. In Fifeshire there are about 8,000 miners unemployed, and in the Lothians about 2,000. To aid the families of these unemployed miners a fund is being raised.

While the fall in the price of blast furnace coke throughout Great Britain has greatly improved the prospects for an early resumption of the industry, pig-iron smelters state that a further reduction is necessary before they can produce iron on an economic basis. In the Midlands the price of coke recently fell from 45s. to 30s. per ton. Several plants are putting their blast furnaces in order with the view of resuming work.

#### German Production Increases

A cable to *Coal Age* on Aug. 27 shows the output of the Ruhr district for the week ended Aug. 13 as 1,741,844 metric tons as compared with 1,736,182 tons for the preceding week.

Production of coal for the first six months of this year was 60,947,000 tons as compared with 61,890,000 in the corresponding period of 1920. The omission of Upper Silesian figures for three months of this year indicates that the output was really considerably in excess of the period in 1920.

June production in the chief German coal districts improved slightly as compared with May, according to H. O. Herzog, correspondent for *Coal Age*, in Berlin. Although no official figures for May and June are as yet available for Upper Silesia, where the output was affected by the unrest, returns were received in July, as shown in *Coal Age*, issue of Aug. 11, 1921. This disturb-

ance extended to Lower Silesia with the loss of some tonnage when discontented miners struck for higher wages.

Estimating the Upper Silesian output at 1,500,000 metric tons, the following table shows the June production of the chief districts:

District	Metric Tons
Ruhr.....	7,753,350
Upper Silesia.....	1,500,000
Lower Silesia.....	294,307
Saxony.....	382,763
Aachen.....	181,762
	10,112,182

Transportation difficulties in June were practically nil. The pit reserves were again decreased 34,000 tons, to 231,000 tons at the end of the month.

Lignite production in June was 6,952,000 metric tons and briquets 1,755,000 tons. In spite of the reduced demand, the production of lignite in Central Germany increased in comparison to May by 7.1 per cent, and the production of briquets by nearly 11 per cent. This is due to the expectation of a brisk demand in view of the impending coal tax.

#### Pier and Bunker Prices, Gross Tons

(Foreign Buyer Quotations by Cable to Coal Age)

PIERS		Aug. 20		Aug. 27†	
		Low	High	Low	High
Pool 9, New York...	\$5.75@5.90	\$5.75	\$5.90	\$5.75	\$5.90
Pool 10, New York...	5.25@5.60	5.25	5.60	5.40	5.60
Pool 9, Philadelphia...	5.80@6.00	5.80	6.00	5.80	6.00
No. 10, Philadelphia...	5.40@5.70	5.40	5.70	5.40	5.70
Pool 71, Philadelphia...	6.00@6.25	6.00	6.25	6.00	6.25
Pool 1, Hampton Roads.....	5.50	5.50		5.00	5.25
Pools 5-6-7, Hampton Roads...	5.00	5.00		4.50	4.75
BUNKERS		Aug. 20		Aug. 27†	
		Low	High	Low	High
Pool 9, New York...	\$6.00@6.20	\$6.00	\$6.20	\$6.00	\$6.20
Pool 10, New York...	5.60@5.85	5.60	5.85	5.70	5.90
Pool 9, Philadelphia...	6.10@6.30	6.10	6.30	6.10	6.30
Pool 10, Philadelphia...	5.70@6.00	5.70	6.00	5.70	6.00
Welsh, Gibraltar.....	60s. f.o.b.	60s.	f.o.b.	55s.	f.o.b.
Welsh, Port Said.....	80s. f.o.b.	80s.	f.o.b.	74s.	f.o.b.
Welsh, Singapore.....	102s. 6d. f.o.b.	102s. 6d.	f.o.b.	102s. 6d.	f.o.b.
Welsh, Rio Janeiro.....	90s. f.o.b.	90s.	f.o.b.	90s.	f.o.b.
Welsh, Algiers.....	60s. f.o.b.	60s.	f.o.b.	55s.	f.o.b.
Welsh, Malta.....	67s. 6d. f.o.b.	67s. 6d.	f.o.b.	67s. 6d.	f.o.b.
Welsh, Lisbon.....	85s. f.o.b.	85s.	f.o.b.	85s.	f.o.b.
Welsh, La Plata.....	80s. f.o.b.	80s.	f.o.b.	80s.	f.o.b.
Welsh, Madeira.....	65s. f.a.s.	65s.	f.a.s.	65s.	f.a.s.
Welsh, Teneriffe.....	65s. f.a.s.	65s.	f.a.s.	65s.	f.a.s.
Welsh, Genoa.....	69s. t.i.b.	69s.	t.i.b.	69s.	t.i.b.
Durham, Newcastle.....	35s. @ 37s.	35s.	@ 37s.	35s.	@ 37s.
Belgian, Antwerp.....	135 fr.	135 fr.		135 fr.	

#### C.I.F. Prices, American Coal

(In Gross Tons)

	Aug. 20		Aug. 27†	
	Low	High	Low	High
River Plate.....	\$9.50	\$9.00	\$11.40	\$10.90
French Atlantic.....			10.10	9.75
United Kingdom.....			10.15	9.60
West Italy.....	10.00	9.50	11.70	10.50
Scandinavia.....			10.70	10.35
Rotterdam.....			9.90	9.40

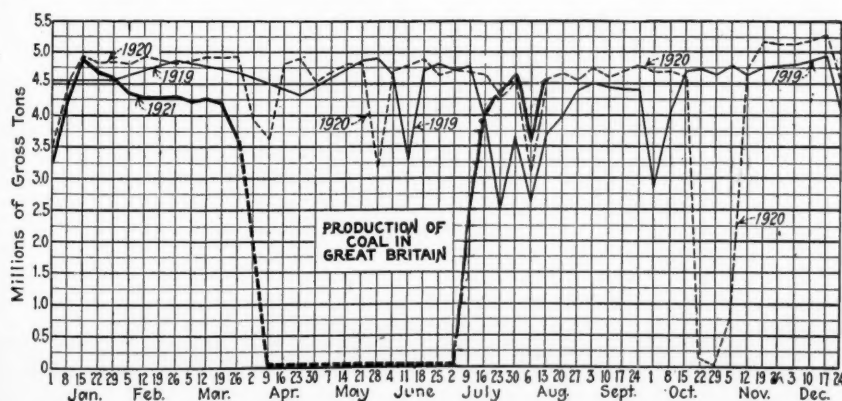
#### Current Quotations British Coals f.o.b. Port, Gross Tons

Cardiff		Aug. 20	Aug. 27†
Admiralty Large.....	36s. 9d.		32s. 6d.
Steam, Small.....	19s. 6d.		17s. 6d.
Newcastle:			
Best Steams.....	29s. 9d.		30s.
Best Gas.....	31s. 9d.		30s. @ 33s.
Best Bunkers.....	32s. 6d.		27s. @ 28s.

† Advances over previous week shown in heavy type, declines in italics.

#### Czecho-Slovakia Has Labor Troubles

A report to *Coal Age* shows that the negotiations between the Coal Miners' Union and the representatives of the owners in the Astrau-Karvin district have proved abortive, owing to the miners' refusal to consider proposals



for a reduction of wages. The miners have handed in their notices to terminate the present agreement which expires in November, 1921.

#### Coal and Coke Exports from the United States During July

Exports of bituminous coal were nearly a million tons less in July, 1921, than they were in July, 1920. The United Kingdom, as a result of the strike in England, took 406,525 tons of American coal during July, 1921. Italy took an increased tonnage. The 1920 revised figures of the Bureau of Foreign and Domestic Commerce follow:

	July, 1920	July, 1921
Anthracite.....	659,095	388,041
Bituminous.....	3,556,802	2,649,989
Exported to:		
Belgium.....		2,866
Denmark.....		20,621
France.....	261,555	110,648
Italy.....	126,069	239,187
Netherlands.....	134,212	83,221
Norway.....		
Sweden.....	281,418	
Switzerland.....	60,297	8,759
Canada.....	1,684,722	1,308,973
Panama.....	9,899	18,149
Mexico.....	16,683	14,499
Br. West Indies.....	14,156	6,478
Cuba.....	94,019	33,282
Other West Indies.....	9,179	7,792
Argentina.....	130,393	97,512
Brazil.....	83,468	27,525
Chile.....	53,767	1,523
Uruguay.....	25,158	24,333
Egypt.....		36,994
United Kingdom.....	12,219	406,525
Other countries.....	569,588	201,102
Coke.....	80,112	19,129

#### Export Clearances, Week Ended August 25

##### FROM HAMPTON ROADS

	Tons
For Africa:	
Br. S.S. Hartfield, for Dakar.....	6,757
Br. S.S. Stentor, for Port Said.....	4,054
For Brazil:	
Am. S.S. Orinoco, for Buenos Aires.....	5,776
Am. S.S. Robin Hood, for Rio de Janeiro.....	8,283
For Peru:	
Br. S.S. Bogota, for Callao.....	985
Br. S.S. Munarden, for Fort de France.....	5,036
Br. S.S. Capelhall, for Las Palmas.....	2,806
Am. Schr. G. J. Cherry, for Nassau.....	588
Br. S.S. Telemachus, for Singapore.....	4,157

##### FROM BALTIMORE:

For Italy:	
Ital. S.S. Milazzo.....	6,597
Ital. S.S. Olimpo.....	4,984
Am. S.S. West Lashaway.....	7,671
For Sweden:	
Dan. S.S. Fredericksborg.....	2,923

##### FROM PHILADELPHIA

For Bermuda:	
Am. S.S. Irma.....	988
For Brazil:	
Dan. S.S. Florida, for Rio de Janeiro.....	5,248
For Cuba:	
Nor. S.S. Trafalgar, for Neuviitas.....	3,195
For Italy:	
Ital. S.S. Adriatico.....	6,266

#### Hampton Roads Export Outlook Extremely Poor; Prices Decline; Bunkers Are the Mainstay

Practically no export business has been noted in the past week, and shippers are not optimistic over the foreign situation. The number of ships sailing for foreign ports is steadily declining.

Only nine vessels cleared for overseas during the week.

Pools 1 and 2 are being offered freely for \$5. Reductions in price, however, have failed to stimulate the market to any appreciable extent. Pools 5, 6 and 7 have been reduced as low as \$4.50, although the average quotations last week were \$4.75. The bunker business continues somewhat active, although the number of vessels engaged in all phases of trade are said to be gradually declining. Railroads entering Hampton Roads have announced slight reductions in freight rates on coal from certain fields, but this has not stimulated the trade. The accumulations at Tidewater are steadily decreasing, while the vessel tonnage awaiting cargo is the lowest in many months.

#### PIER SITUATION

	Week Ended	
	Aug. 18	Aug. 25
N. & W. Piers, Lamberts Point:		
Cars on hand.....	2,641	2,303
Tons on hand.....	134,502	122,427
Tons dumped.....	102,738	134,173
Tonnage waiting.....	7,300	4,200
Virginian Ry. Piers, Sewalls Point:		
Cars on hand.....	1,808	1,848
Tons on hand.....	90,400	92,400
Tons dumped.....	70,094	79,296
Tonnage waiting.....	6,857	2,380
C. & O. Piers, Newport News:		
Cars on hand.....	1,961	2,233
Tons on hand.....	98,050	99,050
Tons dumped.....	36,991	56,056
Tonnage waiting.....	6,350	2,500

## Reports

### From the Market Centers

#### New England

##### BOSTON

*Market Still Further Depressed—Hampton Roads Shippers Set the Pace—Low Prices for Slack—Marine Freight Weak—Anthracite in Better Request.*

**Bituminous**—The downward trend of prices continues unabated. Several of the Pennsylvania interests have come to a full stop as far as making competitive prices is concerned, but there are enough left in the open market to show how really desperate is the situation from the producers' standpoint. Receipts both all-rail and by water and rail from central Pennsylvania are relatively light, and it would be difficult to figure out any improvement for September.

There are representative factors in the trade who feel that the low point in prices has now been reached, but there are many others who are not so sanguine. Coal classified as "Pool 10" is now openly quoted at \$2, while fair to medium grades on the B. & O. have receded to \$1.40 or less. Should the slump continue through the early part of September it is likely that buying in this territory will practically cease, for

there would be much less confidence in prices. Developments the next fortnight will be studied with much interest.

The Pocahontas and New River agencies still dominate the whole of the zone accessible to water coal. For any point paying less than \$1.75@2 freight inland from the re-handling centres the grades from central Pennsylvania are now practically out of the question. The bunker trade has slumped materially, \$5.15@5.35, plus trimming, being now the average price level. The Shipping Board made a contract recently at \$5.20, also plus trimming. Alongside Boston as low as \$6.15 per gross ton has been named, and purchases have been made at \$6.40 on cars, Boston or Providence.

The comparatively high prices on screened coal for western territory are reflected in the extraordinary efforts to place smokeless slack; \$1.12 has been rumored as a selling price, and a few large consumers here are negotiating for this cheap fuel. At most points, for Pennsylvania coal to compete all-rail would necessitate a price level of less than \$1 per gross ton.

Not only are marine freights easy at \$1, Hampton Roads to Boston, but the same rate has been extended to points farther East. There have been rumors the past few days that 90c. had been

offered. On Long Island Sound the rate to New Bedford is easy at 70c.@ 75c., with Providence perhaps 5c. less. Charters from New York to Boston have been closed at \$1. The fact is that the vessel owner, along with the bituminous operator, is at a loss to know whether the bottom has been reached.

**Anthracite**—Toward the close of August the domestic sizes were in active demand, largely to take advantage of the August circular. Independent shippers are combing the territory with some success. The low range of vessel freights is of much assistance to them. Stove and egg are the sizes in most demand; chestnut and pea, particularly pea, are much less called for.

#### Tidewater—East

##### NEW YORK

*Domestic Coals Show Strength—Independent Quotations Stronger—Bituminous Demand Slow—Prices Slightly Lower.*

**Anthracite**—There has been a strengthening in the market. All sizes show more strength which it is believed will continue as the season advances. The closing down of many small mines has shortened the tonnage available to such an extent that egg and chestnut which were long on the market for some time have tightened and independent coals are now being quoted at or near company schedules.

There are many rumors as to what the trade may expect in the way of



increases in the mine prices of domestic coals on Sept. 1, but it is the general opinion that not more than the usual monthly advance of 10c. would be made. It is not believed the operators would at this time increase prices to include the Pennsylvania State Tax until after the new laws have been finally passed upon by the courts.

The retail trade is picking up. Dealers are ordering more freely, some of which can be traced to the expected increase on Sept. 1. Movement of company coal has been active. Independents report greater demand for all sizes. Stove coal heads the list. Egg and chestnut have stiffened considerably because of western orders.

The buckwheats continue to grow in strength. All three coals are tighter and some shippers of independent coals are refusing orders for immediate shipment. Barley is the strongest of the three sizes.

**Bituminous**—The trade is complaining once more of the lack of business. Inquiries have fallen off and quotations are slightly lower. Reports received from Canada indicate an increase in demand. At Tidewater there is little urgent call while the line trade is not taking its full quota.

It is apparent that buyers are not considering the low prices at which the better grades are now being quoted and mine owners cannot see much encouragement from present indications. Railroads are not taking much coal, as they have an average of about five weeks' supply on hand and many of them have orders placed to insure a sufficient supply throughout the winter.

On Aug. 25 there were reported at the local piers outside of the pools 1,251 cars of coal and in the pools 105 cars, as compared with 1,313 and 144 respectively on Aug. 19.

Many mines remain idle and comparatively little of the lower grades of coal is coming into this market. Low-volatile slack was quoted \$1.60@1.85; low-sulphur slack around \$2, and Fairmont slack \$1.75@2.

#### BALTIMORE

*Soft Coal Trade Very Flat—Anthracite Deliveries Below Normal—Export Movement Comparatively Light.*

**Bituminous**—Business remains flat in this section. Best steam coals are offering to the trade as low as \$2.10 although the range for average is closer to \$2.20@2.25. Lower grade steam coals are still generally below the \$2-mark, while such fuels as run to Pool 34 are to be had \$1.50@1.75. It is a market in which few mines without good contracts are able to run on a profitable basis.

The export movement continues comparatively light and August will fall far behind the good record made in July. For the period from August 18 to 26, inclusive, only four ships cleared from Baltimore with export coal cargoes. The amount of bunker taken is very light. The entire situation at this

time in the soft coal line fails to show any particular bright spot.

**Anthracite**—Below-normal buying and delivering to both homes and coal yards is the order of the day. Baltimore takes ordinarily around 60,000 tons of coal per month, or 720,000 tons per year but for the period from April 1 to date has fallen considerably below this level. It is estimated that the receipts for August are likely to fall to less than 30,000 tons. The big fall-off in buying is shown in the fact that despite this drop in movement there is still a total of more than 35,000 tons on reserve at this point. There is now sure to be a real pinch when cold weather comes, as thousands of cellars are still without fuel. The coal men are blaming the grand jury indictment and the failure of the public to understand that such a movement cannot bring lower prices.

#### PHILADELPHIA

*Anthracite Holding Its Own—Consumer Shows More Interest—Steam Coals Unchanged—Bituminous Market Disappointing—No Activity in Sight.*

**Anthracite**—The retail trade is at least holding the improvement in evidence during the last few weeks. All yards are working with reduced forces and there are times when deliveries have not been as prompt as some customers desired. As usual, after waiting this long to make up their minds about laying in their winter supplies, the buyers want coal right away.

The strongest demand is still for stove, but both egg and chestnut are also being asked for in a greater proportion than formerly. All dealers have heavy stocks of pea and are hopeful that the small order business this winter will be for pea, as it used to be. It seems altogether likely that the difference of \$3 a ton in its favor will be a big factor when coal consuming begins.

Mines have made better time recently, although the increased production must be going to distant markets, as local retailers are a trifle hesitant at this time about filling in the gaps made in their stocks.

It is thought that the companies will complete their advances with their final increase on Sept. 1. It looks as though a few independents at least will add 10c. to preserve their ratio over company coal, although should business pick up it is quite likely that some others may even put on an extra 25c.

**Bituminous**—Demand continues to be a disappointment. There had been hope that by this time the market would show some real sign of strength, but this is still missing. It cannot be said that inquiries have increased, principally for the reason that the trade is so actively solicited that the consumer hardly needs to ask prices, as he has them given to him in person almost daily.

There continues to be much jockeying in the contract situation, as the market prices are so attractive that the consumer is at least taking a fair

share of spot coal. It would appear that some concerns are overanxious for business, if price offers which have been heard are bona fide, such as a contract at \$2.15 on a high-grade coal, but with the understanding that the name of the fuel will not be mentioned when shipments come out.

The lowest spot figures of the coal year have been effective for the past month, and there has been no change during the last week. One thing is certain and that is if there should be a scarcity of coal there will be an enormous free tonnage to take the market price.

#### BUFFALO

*Little Change in the Situation—Both Anthracite and Bituminous Sell Slowly—Lake Shipments Heavy.*

**Bituminous**—Demand is still small. While it is a fact that some jobbers are doing considerable business, they are getting prices that do not afford the producer any profit, and often sell on a margin that gives them little above expenses. The consumer is in full control of the situation, and he uses his power just as if it was certain to last always.

Every effort is made on the part of manufacturers and the public generally to discover an improvement in business, but the stir is not very near. Jobbers say the consumer is so over-solicited that he needs to be careful or he will buy more coal than he can take care of. Jobbers have scarcely seen a Mont-real coal man this year, and as for going there to solicit orders, the expenses are doubled and the result would mostly be nothing. So all that can be done is to watch for the small business offering and wait till it is better.

Prices are not showing any improvement. Quotations are: \$3 for Youghiogeny gas lump, \$2.75 for Pittsburgh and No. 8 steam lump, \$2.50 for Allegheny Valley mine run and \$1.75@2 for slack, adding \$2.36 to Allegheny Valley and \$2.51 to other coals to cover freight to Buffalo.

**Anthracite**—The cool August has done something to stimulate buying. Sellers are making what effort they can to show the foolishness of holding off, for when people get ready to buy they will all want coal at the same time, and then up goes the premium. Given also a good car shortage and the demand will run up to a panic. As it is, the independents are more or less closed, and the larger mines could do more business if they had the orders to fill.

**Lake**—The companies are getting what revenge they can by keeping up a heavy tonnage. Never have they shipped so much Lake coal at this time of the year. They apparently will go on till the Upper Lake docks are full.

Water shipments for the week ended Aug. 22 totaled 172,400 net tons, of which 76,300 tons cleared for Duluth or Superior (shipper's option after

leaving), 50,200 for Milwaukee, 41,400 for Chicago and 4,500 for Green Bay. Freight rates are still quiet.

**Coke**—Business is as slow as ever. There is no real stir in the furnaces yet. Of the fifteen or so in this district only four or five are running. Jobbers can get only now and then an order, their prices being about as before.

## Northwest

### MILWAUKEE

*Increasing Movement—Better Feeling in the Trade—Some Dealers Shading Hard Coal Prices—Lake Receipts Are Falling Off.*

Movement of coal, both by rail to the interior and to local consumers, is greatly improved since last week's report, and the feeling in the trade is correspondingly better. Prices of both hard and soft coal continue unchanged.

For some unaccountable reason, the Lehigh Valley agencies are selling hard coal 10c under the schedule maintained by all other dealers for a month or more past. The September advance has not been announced as yet. It is sure to be 10c per ton, and there is a possibility that the amount of the Pennsylvania tax may be added. Coke dealers advertise that the September price of that product will be \$1 higher, or \$15 per ton, delivered.

Receipts by Lake have fallen off, and the August record promises to be less than that of any full month since navigation opened. The receipts thus far for August aggregate 71,921 tons of anthracite and 131,382 tons of soft coal, making the season's receipts up to date 597,336 tons of the former and 1,600,350 of the latter.

### DULUTH

*Interior Movement Increases Rapidly—Bituminous Docks Stored to Capacity—Prices Firm.*

Shipments from the docks are increasing rapidly, and it is thought that dealers throughout the Northwest are fearing lest the rapidly approaching winter catch them with no coal on hand to satisfy the demands of customers. Every dock concern reports that business is better.

Receipts at the docks increased last week when 38 cargoes were received, of which 11 were anthracite. This surpasses the number brought into docks the week before. Seventeen cargoes are reported on the way, of which six are of hard coal.

Docks are practically filled, and again there is talk of curtailing shipments to some extent to permit of handling the amount of coal piled. Close to 5,000,000 tons are on the docks, which leaves little room for handling.

Out-bound shipments are helping to relieve the situation, but these are not

keeping up with the receipts. Dock men state that no shortage can occur this year as sufficient bituminous is now on the docks to handle the wants of that part of the Northwest supplied from Duluth.

Prices on all grades remain the same, with sellers still firm. No decrease is looked for on the incoming tide of business. Coal men are optimistic and feel that the winter will see sufficient coal of all kinds delivered to dealers to handle needs.

### MINNEAPOLIS

*Retailers Busy—Industrial Buying Still Lags—Dock Supplies Adequate—All-Rail Business Stronger.*

Things are working around to a better promise for the retail trade. There has been sufficient tonnage moved to the docks to avert any early shortage. As to whether there will be any shortage at all in dock coal remains with the consumers and dealers of the Northwest.

The docks are practically loaded to capacity. If they are to receive their usual tonnage there must be a much greater movement to the interior than has yet been the case. In the last several weeks there has been a distinct improvement in this movement. If it keeps up and increases as it should, there will be ample room for the needed dock coal to be moved up and dumped before the close of navigation.

The turn of circumstances has favored the Northwest. If there were the usual rush from other districts, it might even now be difficult to get all the tonnage desired for this section. But coal is sufficient for all requirements at present, and buyers will do well to recall that this condition may not last. On the other hand, the extreme price of coal will cause many to use wood, which is abundant in the northern part of the State.

Present indications are that requirements will be reduced by reason of lessened industrial needs, and also because of the tendency to economize in domestic consumption. A year ago this was not in evidence, but some have since learned that high wages and easy money cannot last indefinitely, and that it would pay to be thrifty again.

The all-rail business is picking up to some extent, and promises to be quite active a little later on. Local representatives of all-rail companies have been active in seeking business, and as the buying spirit revives they will undoubtedly score in the struggle for orders.

Retailers report a distinct improvement in the demand. They have been making deliveries as fast as possible, and have made good progress. They have had no handicaps, as the rail situation has been free from delay. It has been possible to get coal from any source as rapidly as could be expected. If this buying keeps up it will help greatly to escape the usual rush of

deliveries from those who are always late and in urgent need of fuel.

The fear of a severe shortage in the fall is past. No one anticipates any trouble with a shortage for several months. But there is always a chance of people being caught unprepared and needing coal quicker than it is possible to get it moved. How many of these there will be rests largely with whether the fall is long drawn out, and mild, or if cold weather starts early.

## Inland West

### DETROIT

*Steam Buying Continues Light—Bargain Coal Sales Only—Some Domestic Activity.*

**Bituminous**—Buyers are adhering to their attitude of aloofness. The few sales made are said to be largely of stock put on the market at distress prices. Notwithstanding the limited volume of business, several of the large steam users are reported to have small reserves.

Curtailed consumption enables buyers to place reliance on filling their requirements in the spot market. Under existing conditions, steam buyers appear reluctant to tie up money in coal or other supplies beyond the extent necessary to provide for current requirements.

Four-inch West Virginia lump is quoted \$3.25, 2-in. lump at \$3, egg \$2.75, mine run \$2.25, slack \$1.60. Three-inch lump from Ohio is \$3.25, 2-in. lump \$3, egg \$2.75, mine run \$2.15, nut and slack \$1.50@1.60. Smokeless lump and egg is \$5.25, mine run \$3, nut and slack \$1.65@1.75.

**Anthracite**—Cooler weather has brought home the advisability of making provision for winter fuel needs, resulting in a slightly more active inquiry for prepared sizes. Dealers are endeavoring to stimulate the market by advising their customers to put in at least one ton, as a precautionary measure.

### MIDWEST REVIEW

*Better Market Tone—Prices Steady—Seasonal Inquiries Bring Orders—Labor Unsettled.*

The tone of the market is much better today than it has been since the month of June when there was some little activity in the purchase of coal. At last the people are beginning to realize the danger of their position and inquiries have been coming in. Where an aggressive sales force has been available, it has been found that these inquiries have resulted in some orders.

We do not know of a single corporation fortunate enough to have broken even on coal sales this season. Operators in Franklin County have kept their prices very steady, especially on domestic sizes, but there have been some substantial sacrifices made to move steam coal. In other districts, a loss is shown



on domestic as well as steam sizes. We do not remember another summer in the history of the coal industry so disastrous as this one.

There have been some labor disturbances in southern Indiana, and especially in Sullivan County. The men in a great many cases have definitely broken with the unions and have become so radical that the United Mine Workers have revoked a number of charters. The Indiana fields during the past month seem to be entirely under the influence of the I. W. W. and other bodies even more radical. The situation reached a head last week when men who had been on a strike attacked the superintendents and bosses of a few mines, ran them out of town with warnings never to return. The proper authorities in Sullivan County have not been able at this writing to get a good hold on the situation. In the Linton district, just next door, the local county authorities, by quick and decisive action, have kept the situation well in hand.

It is the consensus of opinion that the miners will be in no frame of mind next April to take a reduction. It is thought that the mines will be idle at least sixty to ninety days from April 1. This opinion seems to be pretty generally shared, and it may be that this has something to do with the demand for steam coals which has lately sprung up.

The number of contracts entered into has been unusually few, and the tonnage required on these has been much below normal. Until recently, most purchasing agents absolutely refused to entertain the idea of a contract, preferring rather to take their chance on the open market; lately, however, the situation has changed slightly.

One or two mines in Illinois and Indiana report "no run" on account of no cars, and it is considered that this is a very ominous sign, coming, as it does, when the demand for coal is extremely slack.

#### CLEVELAND

*Domestic Demand Increases Approximately 60 Per Cent—Prices Remain Firm—Less Lake Tonnage.*

Domestic demand has shown improvement to a considerable extent within the last week. Retailers report buying for domestic consumption in a volume approximately equal to that of the corresponding period of last year. This is coupled with a buying impetus brought about by slightly improved industrial conditions. Steam purchases, however, are still for hand-to-mouth needs and reflect the uncertainty and caution of consumers. One retail concern has placed a special grade of eastern Ohio No. 8 lump on the market at \$6.90, which is about 60c. cheaper than this grade has been sold at retail for a long time.

For the week ended Aug. 20, vessels loaded 625,809 tons of cargo coal at Lake Erie ports. According to statements of the Ore and Coal Exchange, shipments for the season to date are 14,962,793 tons. Indications are that

the movement for the season will be about that of last year.

Retail prices are quoted as follows: Anthracite egg and grate, \$14; chestnut, \$14.15; stove, \$14.20. Pocahontas shoveled lump, \$11.25; mine run, \$9.50. Domestic bituminous: West Virginia splint, \$10; No. 8 Pittsburgh, \$8.15; cannel lump, \$12.15. No. 6 and No. 8 steam slack, \$5.75; No. 6 and No. 8 mine run, \$6; No. 8 3-in. lump, \$6.

#### CINCINNATI

*Domestic Trade More Active—Steam Market Drags—Smokeless Coals Firm Up.*

A general betterment in the domestic trade is the outstanding feature of the market this week. West Virginia splints have benefited materially; Kentucky lump and West Virginia gas coals, while steady, have not seen price advances.

The steam market has been a bit draggy due to the increased production of lump and block. Consumption about keeps pace, and there has been little or no accumulation. Kentucky screenings sell \$1.15@1.35; West Virginia is \$1.35; Kentucky mine run is \$1.75 @ \$2, gas \$1.85@2. Country buyers are in evidence so far as the movement of lump is concerned, while city dealers have been working down the accumulation in their yards and show a greater disposition to buy.

Smokeless lump is still obtainable around \$5, while some New River is being offered at a trifle lower. Nut sells uncertainly around \$4. Mine run is variously quoted from \$2.75 to the circular price of \$3.50, and screenings can be had down to \$1.50.

About the only change in the retail situation is the stiffening of the steam coals. Those dealers who were selling under \$5 have withdrawn their figures and little is being sold under that mark. Cool nights experienced during the past week have been responsible for a belated rush for household coals.

#### COLUMBUS

*Good Demand for Domestic—Steam Business Is Still Slow—Lake Slump Curtails Production—Prices Unchanged.*

There is a larger movement of prepared sizes to consumers and this is reflected in orders from retailers. Dealers' stocks are pretty well depleted and this is causing a better run of orders from all sections. City dealers are the best customers at this time. The retail price list is well maintained at former levels. Hocking lump is \$6.50 while re-screened varieties are \$6.75. West Virginia splints are \$7.50. Pocahontas is getting stronger. Lump retails around \$9.50. Anthracite is firm at \$15 while coke is selling at \$11.50 for all sizes.

The Lake trade is still fairly active as far as loadings at the lower docks are concerned, but less of the tonnage is coming from Ohio mines. West Virginia and Kentucky coals are mak-

ing up the bulk of the shipments. The H. V. docks at Toledo during the week ended Aug. 20, loaded 127,062 tons as compared with 159,167 the previous week, making a total of 2,820,022 tons for the season. The T. & O. C. docks loaded 48,842 tons during the same week, which makes 740,563 tons for the season.

Steam trade is slow and practically none except to public utilities is moving. Railroads are taking only a small tonnage. On the whole little improvement is expected during the next few weeks. Screenings which were strong earlier in August have receded to about the levels which prevailed during the greater part of the summer.

#### ST. LOUIS

*Domestic Business Beginning To Pick Up—Country Situation Shows Improvement—Steam Demand Slow and Prices Unsteady.*

The local situation as far as domestic is concerned is showing some life. This is on all grades, and is not yet in volume on any one grade.

Local steam business is slow. Some coal is going into storage, but this is not a factor. Country call for domestic is the only stimulant in the entire market. This is going chiefly to western parts of the State, although some coal is moving north and northwest. The steam call outside is better, and a good tonnage is moving north into Chicago.

Domestic business on anthracite coal and coke is almost at a standstill. Indications are that there will be an increase in mine prices on Franklin County in September, and an advance in domestic coal can also be expected.

#### CHICAGO

*More Active Market—Domestic Trade Picks Up—Nearer Coals Favored.*

There is more activity in the market. Opinion is divided, however, on whether it is caused by more demand or by the return of a number of sales agents from their vacations. The vacation season, so far as the coal man is concerned, has been a long one this year, as it has been almost impossible to sell coal except at prices away below cost.

There has been a far better domestic demand during the last week. The orders that are coming in to the retailer, however, are small, as the public has not yet gotten over the idea that freight rates and prices are going to be reduced to still lower levels. Retailers are buying in a hand-to-mouth way, and, as their bins have been filled all summer, they are only replacing the slight inroads made by the fall demand.

In Chicago proper there is but little steam demand, and what coal is purchased is on a very narrow margin. The screenings market has not yet recovered from the blow it received recently, when one of the larger operators whose contracts nearly all expired at the same time, dumped a large tonnage on the market.

Eastern bituminous is very sluggish.

The Chicago public seems to be favoring Franklin County as a domestic coal instead of Pocahontas, and the dealers have all the Pocahontas they can conveniently handle. Consequently, what little smokless has been coming in has been on consignment and sold at a very close price. Block from West Virginia or Kentucky is also in but little demand. Anthracite, however, is moving in fairly satisfactory quantities. The dealers are keeping their bins loaded with this as they feel they are in for transportation difficulties and they want all the anthracite on hand they can take care of before winter sets in.

## South

### LOUISVILLE

*Steam Buying Delayed—Small Seasonal Increase in Domestic—Unrest on West Virginia Border.*

The local market is not showing any material improvement, although consumers are using a fair volume of fuel.

Producers claim that the troubles on the West Virginia border in the Mingo section are resulting in some lost time in eastern Kentucky, as such strife is causing unsettled conditions. However, production as a whole is holding up very well.

Retailers are chiefly holding their yard stocks for later use, and buying about as much coal as they are selling at the present time. The average domestic as well as steam consumer is trying to convince himself that there will be no coal or car shortage this year, and that prices will not be higher.

Movement of prepared sizes is increasing a little. Screenings are in better supply, but with industry more active, prices are being maintained at \$1.25 and better in eastern Kentucky, a little stock from western Kentucky being quoted at \$1. Mine run is moving slowly.

Railroad consumption is said to be a little better, as freight movements are somewhat heavier. Shops of the Illinois Central at Paducah, Southern Railway at Somerset, and others are taking on more shopmen, as a result of increased repairs.

### BIRMINGHAM

*Conditions Improve Industrially—Buying Continues Sluggish—Prices Undisturbed—Furnace Interests Expect to Resume.*

While the demand continues poor, business conditions are looking better. There is as yet no effort on the part of consumers to care for more than their needs for a few weeks ahead, hence the trade is confined to the spot market. One of the leading companies catering to the bunker trade has been making heavier shipments within the last week to Pensacola and New Orleans, but the movement for commercial use has otherwise shown little change.

Steam quotations have not changed in the past week, but as there is con-

siderable surplus coal being thrown on the market by the smaller operations, buyers have been able to secure the limited tonnage taken at figures somewhat below the spot market.

Some improvement is reported in the retail domestic trade outside of the Birmingham district, but locally conditions have taken no turn for the better and dealers are doing practically nothing. As a result, little new business is being taken on. Domestic coal will make the customary advance Sept. 1.

The indications are that several furnaces which have been idle will go into blast again within the next few weeks. Raw material rates on intrastate movement of coal, coke and iron ores for furnace use have been ordered reduced from 20 to 25 per cent, effective not later than Oct. 1, which will mean a saving of 75c. @ \$1.25 per ton on pig iron manufacture.

## West

### DENVER

*Production Still Low—Retail Stocks Heavy—Municipal Fuel Yard Revived.*

Colorado production for July showed an increase of about 100,000 tons over the June tonnage. Thus far only 75,000 tons have been bought for storage in Denver, as compared with 250,000 tons last summer.

Storage prices, set at the minimum in April, have now advanced approximately 50c, and may go higher before winter. Retail prices on domestic lump are \$10.75 for southern Colorado coal, \$11.50 for Routt County, and a little more for top-notch grades. Best lignite is retailing at \$9.25, although the city municipal fuel department has

been revived and is taking orders at \$6.50.

Mines in many places are working only half-time or less. For the week ended Aug. 6, 148,147 tons of a possible full-time output of 319,939 tons were mined. For the week ended Aug. 13 the tonnage was 145,961.

Retail dealers have their storage bins filled to capacity, or have expended their financial ability to place more advance orders at the mines. With local private storage bins empty, the first cold snap will start a rush of orders which will swamp the retailers, exceed the carrying capacity of the railroads and the output of the mines.

## Canada

### TORONTO

*Some Improvement but Orders Much Below Normal—Holding Back Orders May Cause Later Shortage.*

Since the setting in of cooler weather, orders for anthracite have been freer. Dealers have large stocks on hand and a fair amount is coming forward. It is feared that the unusual delay in laying in winter supplies may result in a shortage later on, as the allotment of coal to Canada was to be taken in evenly distributed shipments throughout the season, and when shipments are curtailed from lack of orders, the total allotment is liable to be cut down. There is no change in the situation as regards bituminous, the demand for which is very light.

Quotations are as follows:

Retail:	
Anthracite, egg, stove, nut and grate.	\$15.50
Pea.	14.00
Bituminous steam.	11.00 @ 11.50
Domestic lump.	12.25
Cannel.	16.00
Wholesale f.o.b. cars at destination:	
3-in. lump.	7.75 @ 8.50
Slack.	6.00 @ 6.75

## News From the Coal Fields

### Northern Appalachian

#### ANTHRACITE

*Interest in Kohler Bill—Better Demand—Strike Fear Has Abated.*

The problem of interest is whether the companies will file maps of their mines under the provisions of the Kohler bill which prescribe that maps be filed ten days prior to operation. In Scranton some companies filed early and other were reported as preparing to file, but at Wilkes Barre the filing of maps by companies of any size is being delayed so long that it would rather look as if they intended to seek an injunction in the courts against the enforcement of the law.

If the Kohler-Fowler bills prevent

second mining in the Northern district, business may take renewed heart in the sections where mining can be pursued without danger of mine caves and risk of penalization.

#### PITTSBURGH

*Higher Asking Prices—Scarcely Any Demand—Production Extremely Light—Lake Shipment Slumps Further.*

In the face of an extremely light demand prices are higher by 10c. @ 20c. a ton on mine run, while domestic lump is up still more. The explanation may be that the more highly competitive production has ceased, not enough business being developed by low prices. At any rate, the great majority of mines are closed.

Open market demand is as light as formerly, except that there is a little



seasonal inquiry for domestic. Dealers show no disposition to take hold to any extent, and at best buy only in limited quantities. Lake tonnage continues to dwindle. But few contracts for gas and steam are operative.

While the district has lost some business to Connellsville and other non-union fields, it appears that the main cause of the idleness is the lack of buying in general.

Prices, which are largely nominal, are now as follows: Slack, \$1.65@ \$1.75; steam mine run, \$2.20@ \$2.30; 3-in. steam, \$2.75; 14-in. domestic, \$3.25; gas mine run, \$2.25@ \$2.35; 3-in. gas, \$2.55@ \$2.75.

#### CENTRAL PENNSYLVANIA

*Production Improved—Wage Scale Adjustment Held to Be Vital.*

Some improvement in production has been reported from various sections and operators are still hoping that an adjustment of the wage scale will permit the full operation of the mines before the opening of winter.

One of the leading operators of the central Pennsylvania field is authority for the statement that the Central Competitive producers are as much to blame for conditions in not adjusting wage scales as the United Mine Workers. Little hope is held out that a downward revision will be effected with the officials of District No. 2.

Production figures for August have not been completed but will show a decided increase over July. Mines in the northern Cambria field are getting back to normal gradually and are now running five and six days a week, with assurance that if the proper wage adjustments were made, the output would soon reach normal.

#### EASTERN OHIO

*Lake Slump Causes Production Decline—Steam and Domestic Demand Is Stronger—Slack Weakens.*

Production during the week ended Aug. 20, amounted to 357,000 tons or approximately 57 per cent of rated capacity. This represents a decrease of 53,000 tons under the preceding week when operations were at about 66 per cent of capacity and is the lowest output since the latter part of April. Production figures for the year to date indicate a total output of 11,110,589 tons or 54 per cent of rated capacity. Association mines also report a decided falling off, producing about 55 per cent of capacity and working 42 per cent of possible work-time. Railroads are taking an increased tonnage for fuel and with the decided decrease in mining operations this is not far below 35 or 40 per cent of the aggregate output. Looking to a heavier traffic on the roads this fall and the approach of the winter season, it is expected that this demand will show considerable improvement. There is a better tone in the industrial market, caused by resumed operations in the steel mills and other manufacturing plants. This is being

reflected by some new life in spot sales and inquiries.

Domestic mines are running full time to meet the requirements of retailers. The domestic trade has picked up materially and is no doubt stimulated by the cool weather which has prevailed in this section for the past ten days.

However, the improved situation with respect to both industrial and domestic demand is not sufficient to offset the decreased output for Lake and many in the coal trade therefore feel that maximum operations have passed, for the time being at least. Some weakening has been noted in the price of slack, but with that exception there is little change in spot quotations.

#### CONNELLSVILLE

*Byproduct Offerings Stand in Way of Connellsville Coke—Wage Scale Uncertainties—Production Remains Light.*

Offerings of accumulated byproduct coke continue to stand in the way of Connellsville production, against the occasional inquiries that are now coming out in connection with the possible resumption of a few blast furnaces. It is understood that some of the byproduct interests are prepared to quote on production in competition with Connellsville.

On the theory that the wage reduction, announced by the Steel Corporation to become effective Aug. 29, would involve a new Frick scale to replace that of Aug. 1, the Rainey interest announced another reduction at its plants, a strike resulting at four of the mines Aug. 22. Other independents made no move to reduce wages, their scale being lower than the Frick scale would be if reduced 10 per cent.

Coal demand is not good, although byproduct has improved somewhat in the past week or two, and sometimes brings as high as \$2.

The coke market is quotable \$2.90 @ \$3 for spot furnace, \$3 @ \$3.25 for contract furnace and \$4 @ \$4.50 for spot foundry. The *Courier* reports production in the week ended Aug. 20, at 12,700 tons by the furnace ovens, and 24,250 tons by the merchant ovens, a total of 36,950 tons, an increase of 1,190 tons.

#### UNIONTOWN

*Strike at Rainey Plants—Workers Refuse Further Reduction—Market Still Quiet.*

Virtually complete suspension of operations at six plants of the W. J. Rainey, Inc., following refusal of employees to accept a further reduction of 10 per cent in wages, was the outstanding feature in the Connellsville coke region during the week. Approximately 2,000 men are idle and Rainey officials claim the company is prepared for an indefinite suspension.

No disorder has resulted from the strike although Sheriff I. I. Shaw early Friday morning stopped a delegation of workers approaching the Paul mine,

which until that time had been working.

There is no union phase to the Rainey strike, Organizer John O'Leary, of Charleroi, being quoted as saying that the United Mine Workers was not conducting any campaign at this time. There are no recognized leaders of the Raineymen, the walkout at all of the plants being a spontaneous protest against further wage reductions.

#### FAIRMONT AND PANHANDLE

*More Inquiries Appear—Production Still Low—Tide and Lake Shipments Decline.*

##### FAIRMONT

Conditions were practically unchanged during the week ended Aug. 20. Mine idleness was still very apparent, production not running over 25 per cent. About the only grade manifesting any strength was slack, which was selling as high as \$2. Tidewater shipments were slim and comparatively little Lake coal was moving. Unconsigned loads were on the increase.

##### NORTHERN PANHANDLE

A few more inquiries were being received, but little new business had materialized, production being about 60,000 tons. Lake shipments had virtually ceased, and there is no indication of a resumption of buying for this trade.

#### UPPER POTOMAC

*Production at Standstill—Non-Union Competitors Get the Spot Orders.*

Production was still largely at a standstill in the Upper Potomac and Georges Creek regions in the week ended Aug. 20. No coal other than that to be applied on contract, principally for railroad fuel purposes, was being mined. There was no spot business available, all orders of that nature going to the competitive non-union fields in Pennsylvania, where producers were able to undersell local operators.

### Middle West

#### INDIANA

*Steam Consumption Low—Domestic Demand Unimproved—Price Advance Due.*

Demand for domestic coal, which usually shows a good increase during the closing days of August, continues at a low ebb. The retail dealer, because of the uncertain situation, is not carrying large stocks. He received such a bumping during the last year that he hesitates to lay in large supplies at this time. What will come with the advent of the first cold spell is only a guess.

Any price advance would be due more than anything else to a growing scarcity of lump. The demand for steam coal, because of the industrial depression, continues light and the production of prepared sizes depends upon the finding of an outlet for this steam coal.

Right at present the consumer can obtain domestic coal of high quality and prompt delivery, a situation which in other years at this time was almost unknown.

#### WESTERN KENTUCKY

*Orders Increase—Domestic Higher—New Rates Developing More Markets.*

Orders are coming in increasing numbers and inquiries are more numerous. Due to the comparatively small retail stocking this year, and light buying the past two months, it is believed that September business will be active.

Retailers are demanding shipments in flat bottom cars, but this type is scarce. A 20 per cent increase in demand will result in all cars being scarce on some of the producing lines in Kentucky.

Screenings are a bit weak, some overproduction selling down to \$1, but lump is firm and higher.

The L. & N. is publishing through rates on coal from its western Kentucky mines connecting with the B. & O. at Louisville to points in Indiana and Ohio. The recent granting of through rates to Missouri and north Arkansas points at 25c. a ton over the southern Illinois group mines, and the status of the through rate protest to Georgia points, are all having their effect in an increased outlet for production.

#### SOUTHERN ILLINOIS

*All Coals in Better Position, Especially Domestic—Prices Steadier—Signs of Car Shortage.*

A steadier tone has developed in the Carterfield field, although screenings are not doing much. They are still around \$1.25, but are moving a trifle better. Nut coal still hangs heavy, but egg is commencing to move. Many mines are way behind on their lump shipments.

Everything indicates that the domestic trade is beginning to buy. There has been no change in prices. Railroad tonnage was heavier the past week and the matter of car shortage continues to show its near approach. Working time shows up a trifle better, but many mines are still idle.

In the Duquoin and Jackson County fields conditions show a slight improvement, both in working time and prices, which are stronger on domestic sizes and range the same as Carterville.

In the Mt. Olive field a slight improvement was noted in the demand for lump. Egg is slow and nut and screenings are going mostly on contracts. Country price on Mt. Olive lump and egg is \$3.75, with St. Louis and Chicago prices about \$3. Working time is better than two days a week.

In the Standard field some slight improvement is noted in the demand for domestic lump. Egg is slow and hard to move, also nut, bringing prices equal to 2-in. lump, which range \$2.10@2.35, while 6-in. is about \$2.75, with screenings averaging 90c@1. Railroad ton-

nage is heavier, but the bulk of the steam coal is moving to the north, while domestic sizes are moving out in the country west of the river. Working time ranges from two to four days, with many mines idle altogether.

### Middle Appalachian

#### LOW-VOLATILE FIELDS

*Tidewater Outlet Closed—Domestic Demand Stronger—Slack Coal at Bargains—Contract Movement Better.*

#### NEW RIVER AND THE GULF

There was a very poor market for New River coal during the week ended Aug. 20, and production remained in the same rut, with prices still on the downgrade. The Tidewater market was extremely sluggish, and it was difficult to secure more than \$5 f.o.b. Hampton Roads. In short, little other than contract coal was being mined and moved.

Similar conditions prevailed in the Winding Gulf district, with mines running less than half-time. Inland buying was very slow and hence contracts alone stood between the mines and complete idleness.

#### POCAHONTAS AND TUG RIVER

Pocahontas production was on a somewhat larger scale, reaching about 60 per cent as compared with 40 per cent earlier in the month, with "no market" losses not far short of 200,000 tons. Tidewater shipments were greatly curtailed as the result of a very poor demand. The western movement was fairly large, and domestic was selling more favorably. Slack, however, was difficult to dispose of.

As was anticipated, there was a slight increase in Tug River production, the gain over preceding weeks amounting to about 30,000 tons. There was a little more activity in the open market, but only a small proportion of the output was moving to Tidewater. The bulk of the coal was being applied on contracts.

#### HIGH-VOLATILE FIELDS

*Labor Disturbance Affects Production—Steam Demand Unimproved—Domestic Buying Is Better.*

#### KANAWHA

Production during the week ended Aug. 20 was seriously interrupted at the few mines operating on Cabin and Paint creeks by the assembling of men near Marmet for the purpose of marching into Mingo County. It is estimated that on Aug. 24 more than 5,000 men were gathered at this point.

Sales were almost at a standstill, little other than contract coal being moved, although slack was in better shape, owing to the growing scarcity.

#### LOGAN AND THACKER

In the Logan region only about half as much coal was being shipped as

during the corresponding period in July, as it was necessary to curtail shipments for storage, which for some months had constituted the bulk of production. Although orders were no more plentiful, operators were beginning to receive a better line of inquiries.

Williamson mines were producing about on the same basis as during preceding weeks. Production losses from "no markets," while heavy, were not such as to force very many mines into idleness. There was no interference with operations at any point owing to industrial trouble.

#### NORTHEASTERN KENTUCKY

A slightly heavier demand for lump coal was apparent, as retailers were beginning to add to their fall stocks of coal. Although some classes of industry were taking on additional reserves, consumption was low and sales of gas and byproduct coals were few.

#### VIRGINIA

The output amounted to 47 per cent of capacity, "no markets" representing a loss of 52.7 per cent. Production was heavier on the Interstate R.R. than on any other lines serving southwest Virginia. Production was mainly on contract, operations being limited to the larger tippie mines. Prices remained virtually unchanged.

### West

#### UTAH

*Some Buying Improvement—Retail Stocks Heavy—Industrial Demand Still Low.*

The situation continues to improve, though dealers are not experiencing anything like a rush on the part of consumers to place orders. Industrials are slow to pick up. The general public continues to grumble at the prices which prevail, and the winter will doubtless be upon many householders before they decide to fill their coal bins.

Retailers are still piling up coal in the yards, but with present facilities it will be impossible to adequately care for the winter trade unless consumers order the greater part of their supplies during the next few weeks.

JULY LOADINGS ON THE C. & O. system were 671,930 tons lighter than during June and were 396,770 tons less than in July, 1920. Of the entire 2,016,406 tons, handled in July, about one half or 1,018,970 tons originated in the Logan field. Production in net tons in the various fields as reported by the C. & O. was as follows:

	June, 1921	July, 1920	July, 1921
New River.....	682,130	594,810	370,990
Kanawha.....	390,040	525,670	289,910
Coal River.....	260,400	217,270	186,610
Logan.....	1,195,780	799,230	1,018,970
Kentucky.....	160,040	276,250	149,986
	2,688,390	2,413,230	2,016,400





# MINE And COMPANY NEWS



## ALABAMA

Papers of incorporation have been filed by the **Helena Straven Coal Co.**, to engage in the mining, buying and selling of coal, with a capital stock of \$20,000. The incorporators, who now operate the West Helena Coal Co. and the Montevallo-Straven Coal Co., domestic mines in Shelby County, are A. Sicard, F. E. Dunlap, Mrs. Mary E. Dunlap and Mrs. Amelia Sicard. The present going mines are located at Sicard and Straven, Shelby County.

It is reported that the **Burnwell Coal Mining Co.** is having a spur track constructed to the site of a new mine to be opened near Burnwell, Walker County, where a slope is now being operated. The new development will be along modern lines and all machinery will be electrically driven. Coal-cutting machines are to be employed and equipment installed for the proper preparation of the product, which will be taken from the Mary Lee seam. The Burnwell company operates the Samoset mine in the same vicinity, which is served by the 'Frisco' lines. General offices are in Birmingham.

## ILLINOIS

The **Electric Coal Company**, formed at Danville, with Indiana holdings, in 1895, by Will and John G. Hartshorn, brothers, has been sold to a syndicate of capitalists headed by George E. Moore of New York City and Frederick E. Butcher of St. Louis, Mo., a final payment of \$1,000,000 being made. The Hartshorn brothers held all the stock in the concern which was started on \$5,000 capital.

A new 3,000-ton mine is being planned by the **Dodds Coal Mining Co.**, at Carrier Mills. A switch will be extended from Dodds Mine No. 1, about three miles south to the site of the new mine. If the plans of the company are carried out as specified, coal will be hoisted from the new plant not later than December.

The superintendents, foremen and office clerks of the four mines of the **Nason Coal Co.**, were banqueted recently by officials of the company at Virden. The four mines are located at Springfield, Auburn, Girard and Virden. The meeting was held with the idea of increasing the spirit of co-operation among the mines and to better acquaint the men with each other.

## INDIANA

Earl Sigmon and Charles Sigmon, operating under the name of **Sigmon Coal Co.**, have filed suit in Indianapolis against the **J. R. Morris Coal Co.**, asking that a receiver be appointed for the defendant company, which, the plaintiffs allege, is not only indebted at the present time in the amount of \$25,000, but is losing daily between \$250 and \$300. As stockholders in the defendant company, the plaintiffs ask the appointment of a receiver to prevent further wastage.

The **Etnica Coal Co.**, which has an office at Clinton, has been placed in the hands of a receiver. Attorney Homer H. Alkman was named as receiver. The company was organized four years ago, but from some cause has never been pushed into real operating activity. The assets are not sufficient to meet liabilities, and it is believed some of the land will fall back to the title of the man who holds a first mortgage.

## KENTUCKY

The **Wiser Coal Co.** has filed a voluntary petition of bankruptcy as a result of unsatisfactory railroad connections, freight rates, and the miners' strike last September. The company was organized last autumn to take over a lease in Clay County. The company has listed its liabilities at about \$35,000 and its assets at \$55,000. The largest of these is a leasehold listed at \$35,000. Action requesting

the appointment of a receiver was brought in the Clay County Circuit Court.

Improvements which will increase the company's capacity to 1,000 tons a day have been undertaken by the **Kentucky Block Fuel Co.**, at Elwood. The company has let a contract for the erection of a tippie to cost \$25,000, which will have three loading tracks in connection with its operation.

George D. Caldwell and Charles G. Middleton will organize a company to mine coal as the **Alexander Y. Malcom Coal Co.**, with a capitalization of \$500,000.

The **Delaware Coal Co.**, recently increased its capital from \$30,000 to \$60,000.

The **Standard Harlan Coal Co.**, has acquired a mine at Ages, formerly owned by the **Harlan General Coal Co.**, and plans construction of a mile of railroad and development.

## MINNESOTA

The **Duluth Atomized Fuel Co.**, of Duluth, is a new concern, formed by the interests already represented in Minneapolis and St. Paul, to engage in the manufacture of pulverized fuel from peat. The capital stock is \$480,000.

Whitney Bros., have started to rebuild the foundation of the **Boston Coal Dock** at Duluth. At present piling is being driven along the side of the dock and concrete will be put at an early date.

## NEW YORK

An involuntary petition in bankruptcy against the **Interstate Coal & Dock Co.** was filed in the United States Court for the Southern District of New York, Aug. 15, on behalf of three creditors—C. H. Mead Coal Co., who claims \$50,000; Ragland Coal Co., who claims \$10,000, and Manhasset Coal Co., who claims \$100. The attorney for the petitioners is Robert McM. Gillespie.

## OHIO

The **Gibson-Hance Coal Co.**, of Springfield, has been chartered with a capital of \$10,000 to mine and sell coal. The company will wholesale coal for the time being. The incorporators are William H. Gibson, Isula D. Gibson, William A. Hance, Theresa A. Hance and Harry A. Shaffer.

The **Schlier Coal Mining Co.**, has filed an action in the Franklin County courts asking for a receiver for the **Faye Coal Co.**, of Columbus. The plaintiff claims that the Faye Coal Co. is insolvent, has ceased operating and the assets are in danger of being dissipated.

Judge Scarlet in Common Pleas Court has appointed Howard H. Palmer and Roy Brenholtz receivers for the **Ohio Consolidated Coal Co.**, upon the application of Robert C. Kyle, who is surety on notes aggregating \$21,000. The mine is located at Wilbun. The company had the Imperial mine in the Hocking Valley which was sold to D. A. Weadock of Lima, who organized the **Progress Coal Co.**, to operate the mine.

## PENNSYLVANIA

Two historic mines in the Connellsville region are to be reopened, following their purchase from the **American Manganese Manufacturing Co.**, by W. D. McGinnis and J. Fred Kurtz, of Connellsville. The mines are the Hill Farm and Ferguson mines located near Dunbar. The deal involves the remainder of the Connellsville vein of coking coal, the Sewickly and Redstone veins, 200 acres of surface and all mining equipment and the railroad siding. The Hill Farm mine in 1890 was the scene of a disaster in which 32 lives were lost. A bore hole released accumulated gas which caught fire and exploded. The bodies were not reached for 22 months. In 1903 three men were killed by an explosion at the Ferguson mine.

Culm banks of the old Gum Boot colliery, in Carbon County, abandoned long ago, which contains over 1,000,000 tons of coal, will be worked by the **Buck Run Coal Co.**, which recently acquired control. The Philadelphia & Reading Ry. is laying tracks to the banks.

Trustees in bankruptcy of **J. V. Thompson** have declared a dividend of 5 per cent and distribution of \$1,003,142 is being made to 1,781 creditors. Of the amount to be distributed, \$897,542 will go to creditors upon the basis of 5 per cent of their claims. The sum of \$105,599 is awarded the referee for expenses and legal costs. A total of \$3,325,437 has now been paid to Thompson creditors, the first dividend being \$900,900.42. In addition other estates where Mr. Thompson was surety have also paid dividends thus cutting down the pro rata payment of the Thompson debt.

The **Taylor Coal & Coke Co.**, at Searight, resumed operations Aug. 1, as did also the Griffin plant of the **Hillman Coal & Coke Co.**, near Masontown.

## WEST VIRGINIA

In addition to installing much new machinery at its plant at Bachman, the **Atlantic Coal & Iron Co.**, of which W. D. Yerkes, of Philadelphia is general manager, is also contemplating the construction of a number of new houses at its operation. F. D. Enney, of Charleston, is the local manager of the company.

Screens are being installed at the Blume operation of the **New River Smokeless Co.**, at Lookout.

A number of improvements are being made by the **Hazy Eagle Collieries Co.**, at its operation at Edwight. In connection with the opening of the No. 2 gas seam for development, this company is building several new houses and is also installing a shaker screen. W. H. Johnson is the secretary-treasurer of the company.

The **Central Pocahontas Coal Co.** is putting the finishing touches on the work of electrifying its plant at Caples. This concern has abandoned its old steam plant and is now securing its power from the Appalachian Power Co.

An electric conveyor is being installed by the **American Gas and Electric Co.**, at Beech Bottom, for the purpose of conveying coal from the mines to the large turbine engines used in generating power for the Windsor Power Co. The American Gas Co. also contemplates the construction of a railroad into the coal territory owned by the company in Brooke and Ohio counties. It will require about twelve miles of new railroad to connect with these coal fields.

The **Maine Collieries Co.** has just been organized by Morgantown people for the purpose of developing a large tract of coal land on the Astor branch of the B. & O. in Barbour County, this company being capitalized at \$100,000. Leading figures in the new company are: M. L. Taylor, Paul H. Keener, Lena H. Taylor, William E. Glasscock and H. C. Owen, all of Morgantown.

Approximately 526 acres of coal of Pittsburg, situated between the waters of Mudlick Run and Shinn's Run, in Clay district, has been purchased by the **Consolidated Coal Co.**, from the Monongahela River Co., and the Monongah Co. The consideration involved in the transfer amounts to approximately \$322,000.

## ALBERTA

**J. Handley Yates**, who has just returned from England, has advised the Edmonton Board of Trade that a strong syndicate of British financiers, headed by Lord Morris, have become interested in the development of Alberta's coal resources. They propose to acquire a lignite mine and install a system for subjecting the lignite to the low temperature process advocated by Herbert Alexander, under which the byproducts will be secured and the residue converted into briquets.

## Traffic News

The commission has denied a rehearing in the case of the **Little Fork Coal Co. vs. the Eastern Kentucky Ry. Co.**

The commission has denied a petition of the **Consolidation Coal Co.**, for permission to amend its complaint in order to include rates on shipments of coal from mines on the Millers Creek R.R., to destinations in Central Freight Association territory, western classification territory and the Dominion of Canada, during the period from Dec. 28, 1915 to Oct. 6, 1917.

In the complaint of the **Hagerstown Chamber of Commerce**, involving rates on bituminous coal from Pittsburgh-Youghiogheny, Connellsville, West Virginia, Cumberland and Piedmont districts to Hagerstown as compared with Martinsburg, W. Va., the I. C. C. has authorized the **Security Cement and Limestone Co.** to intervene.

The commission has authorized the Pennsylvania to continue rates on bituminous and cannel coal from points in Ohio, and Alpena, Mich., to Thornton, Ill.; to Porter, Springfield and Machler, Ind.; the same as rates on like traffic via direct lines; and to continue higher rates to intermediate points.

In the case of the **Chicago Sewer Pipe Co.**, an examiner recommends that the rates between certain mines and the complainants plant, in the Brazil, Ind., coal district, in effect from June 25, 1918, to Feb. 29, 1920, were unreasonable.

Application has been made to the I. C. C. by head of the Lakes railroads to put into effect a differential of 19c. on soft coal screenings from Duluth-Superior harbor to Minneapolis and St. Paul to meet Illinois competition in that territory.

On the ground that sufficient justification therefor was not shown, the commission has denied, effective Dec. 1, the application of the **Lehigh Valley R.R. Co.**, for authority to continue a rate of \$4.41 per gross ton on prepared sizes of anthracite and \$4.41 per gross ton on pea and smaller sizes of anthracite from collieries, washeries and stations in the Lehigh, Schuylkill and Wyoming regions to Cleveland, Ohio, without observing the long and short haul clause.

In the case of the **West Kentucky Coal Bureau**, a tentative report of an I. C. C. examiner recommends: That the rates on bituminous coal from western Kentucky mines on the L. & N. to Chattanooga, Tenn. and the northern half of Georgia, are unreasonable because they exceed by more than 50c. the rates from the Jellico-Middlesboro group on the L. & N. to same destinations.

Also that the routing to Atlanta over the L. & N. through Birmingham is unreasonably long as compared with another practical through route.

Also that the maintenance of rates from Alabama, eastern Tennessee and southeastern Kentucky mines to Savannah and Port Wentworth, Ga., for export, while maintaining no export rates to these points from Western Kentucky mines, is prejudicial, which is ordered removed.

## Personals

**W. B. Reed**, secretary of the National Coal Association, expects to visit the local coal associations in the fifth and the ninth Illinois districts to discuss cost accounting.

**E. A. Holbrook**, assistant director of the U. S. Bureau of Mines, has returned from an official visit to the Bureau's stations at Pittsburgh and Urbana, Ill.

**C. B. Ebert**, sales manager for the White Oak Coal Co., has returned to the United States after an extended visit in Europe.

**A. W. Johnson**, Duluth, assistant superintendent of the Berwind coal docks, has returned from a vacation, which he passed in a trip on the lakes.

**A. H. Willett** of the National Coal Association has been appointed on a committee on industry to co-operate with the Census Bureau in the determination of schedules to be used in the manufacturing census for 1921 and future years.

**J. C. Evans**, secretary and sales manager of the Fairmont Mining Machinery Co., with headquarters at Fairmont, spent the latter part of the week ended July 23 in Uniontown and Pittsburgh, Pa.

**M. L. Taylor**, vice-president of the Mor-

gantown Coal Co., with headquarters at Morgantown, was in the Cleveland and Detroit markets during the latter part of July.

**Rex L. Tomb**, who represents the Raleigh Smokeless Fuel Co., Beckley, W. Va., was enjoying a brief outing at Detroit, during the latter part of July and spent a part of his vacation in the Kanawha field.

**Luis G. Jimenez**, a mining engineer on the staff of the Department of Mines of the Republic of Mexico, as the State Secretary of Industry and Commerce, is making an extended tour of inspection of the coal fields of the United States. He is making a study of the methods and practices used in the mining of coal in this country for application to the mine-operating problems of Mexico.

**W. W. Odell**, fuel engineer of the Bureau of Mines, is now in North Dakota, where he will co-operate with **Prof. Babcock** of the University of North Dakota on an extended series of tests of lignite carbonization.

**Dr. Harry A. Curtis**, who has been with the International Coal Products Corporation, as chief chemist, is now general manager of one of the subsidiaries of this company, known as the Clinchfield Carbo-coal Corporation, South Clinchfield, Va.

**W. E. Tytus**, who has been purchasing agent for the Sunday Creek Coal Co., of Columbus, has been promoted to general sales agent, taking the place made vacant by the resignation of **J. R. Fitzer**, because of ill health. At the same time, **R. W. Drake** was made assistant general sales agent.

**E. V. Albert**, general superintendent of the Lynch mines, owned by the U. S. Steel Corporation, was a recent visitor in the Straight Creek district of Kentucky.

**D. S. Riddle**, of the Riddle Coal Co., of Chattanooga, Tenn., was in Kentucky recently. Mr. Riddle states that he finds business reviving in the South.

**J. O. Watson**, of Huntington, W. Va., was in southeastern Kentucky recently and made a hurried trip to look over some business properties on the Harlan road.

**J. T. Bradley**, of the Jewett, Bigelow & Brooks Co., is enjoying an automobile trip through the North and East. He is accompanied by Mrs. Bradley and his youngest daughter.

**Harry A. Lawrence**, well-known throughout the Middle West, and formerly with the Union Colliery Co., has become sales manager of the Newsam Coal Co., of Peoria, Ill., with offices in the Fisher Building, Chicago.

**George H. Bridges**, formerly with the Old Ben Coal Corporation and the Chicago, Wilmington & Franklin Coal Co., both of Chicago, has been made sales manager of the Lake and Export Corporation of Illinois, Old Colony Building, Chicago.

## Obituary

**William James Parshall**, 54 years old, one of the most prominent independent coal and coke operators in Fayette County, Pa., died at his home recently, after a lingering illness of a year.

**August B. Trum**, 51 years old, better known to coal men as "Gus" Trum and who for many years was head of the Trum Coal Co., Cincinnati, died recently of heart disease and kidney trouble. Mr. Trum resigned from active participation in the coal business about five years ago and since had been residing at one of the Cincinnati hotels.

## Industrial News

**Cincinnati, Ohio**—The local office of the Cutler-Hammer Manufacturing Co., Milwaukee, has been moved from the Gwynne Bldg., to the Dixie Terminal Bldg., A. R. Majur, formerly of the sales engineering force of the Pittsburgh office, is now in charge.

**Cincinnati, Ohio**—The Humphrey Coal Co., handling smokeless and southeastern Kentucky coals has opened an office at 2209 Union Central Bldg.

**Columbus, Ohio**—J. R. Fitzer, formerly general sales agent of the Sunday Creek Coal Co., has opened a wholesale office on the fifth floor of the Citizens Bank Building and will conduct the business under his own name.

**Detroit, Mich.**—Offices of the Bertha Coal Co. and the Wholesale Coal Co. have been removed from the Majestic Bldg., to the General Motors Bldg.

**New York, N. Y.**—Bradley Stoughton has resigned after more than eight years' service as secretary of the American Institute of Mining and Metallurgical Engineers and will resume his practice as a consulting engineer. Offices in the Engineering Societies' Bldg., 29 West 39th St.

## Association Activities

### National Coal Association

The Statistical Committee of the Association, appointed June 1, 1921, is composed of the following:

**T. W. Guthrie** (Chairman) president, Hillman Coal & Coke Co., First National Bank Bldg., Pittsburgh.

**F. C. Honnold**, secretary, Coal Operators' Associations, 2017 Fisher Bldg., Chicago.

**R. T. Price**, president, Interstate Coal Co., Muskogee, Okla.

**J. S. Brophy**, president and general manager, Piedmont & George's Creek Coal Co., Frostburg, Md.

**L. C. Crewe**, president, LaFollette Coal & Iron Co., LaFollette, Tenn.

**Ira Clemens**, president, Clemens Coal Co., Pittsburg, Kan.

**C. H. Jenkins**, secretary and treasurer, Hutchinson Coal Co., Fairmont, W. Va.

**J. C. Layne, Jr.**, manager of sales, Eaton Rhodes & Co., First National Bank Bldg., Cincinnati.

**S. H. Robbins**, president, Youghiogheny & Ohio Coal Co., Hanna Bldg., Cleveland.

**T. T. Brewster**, vice-president and general manager, Mt. Olive & Staunton Coal Co., 1012 Federal Reserve Bank Bldg., St. Louis.

## Coming Meetings

**The Huntington Coal and Industrial Exposition** will be held in the Chamber of Commerce Building, Huntington, W. Va., Sept. 19 to 24 incl. Chairman of committee, Thomas A. Palmer, Huntington Chamber of Commerce, Huntington.

**American Institute of Mining and Metallurgical Engineers** will meet at Wilkes-Barre, Pa., Sept. 12 to 15. Secretary F. F. F. Sharpless, 29 West 39th St., New York City.

**National Association of Cost Accountants** will hold its annual convention at Cleveland, Ohio, Sept. 14, 15 and 16. Secretary, S. C. McLeod, 130 West 42d St., New York.

**The American Mining Congress and National Exposition of Mines and Mining Equipment.** The twenty-fourth annual convention on Oct. 17 to 22 at the Coliseum, Chicago, Ill. E. C. Porter, Convention Manager, Congress Hotel, Chicago, Ill.

**The West Virginia-Kentucky Association of Mine, Mechanical and Electrical Engineers** will hold its annual meeting at Huntington, W. Va., on Sept. 20 to 23. Secretary-treasurer, Herbert Smith, Huntington, W. Va.

**New York State Coal Merchants' Association, Inc.** will hold its annual convention at Richfield Springs, N. Y., on Sept. 8, 9 and 10. Executive secretary, G. W. F. Woodside, 250 Arkay Bldg., Albany, N. Y.

**Canadian Institute of Mining and Metallurgy** will hold its annual Western meeting at Edmonton, Alberta, Canada, Sept. 14, 15 and 16. Convention secretary, T. B. Williams, 10,610 83d Ave., Edmonton, Canada.

**American Manufacturers Export Association** will hold its twelfth annual convention at the Waldorf-Astoria, New York City, Oct. 5 and 6. Secretary A. W. Willmann, 160 Broadway, New York City.

**National Safety Council** will hold its annual congress at the State House, Boston, Mass., Sept. 26 to Sept. 30 inclusive. Secretary, S. J. Williams, Chicago, Ill.

**The Coal Mining Institute of America** will hold its annual meeting at Pittsburgh, Pa., Dec. 7, 8, and 9. Secretary, H. D. Mason, Jr., Chamber of Commerce Bldg., Pittsburgh, Pa.

**An Industrial Relations Conference** for all industries in the State of Pennsylvania has been arranged for Oct. 24 to 27 at Harrisburg, Pa., by the Commissioner of Labor and Industry, C. B. Connelly.

The sixth annual convention of the **National Association of Purchasing Agents** will be held Oct. 10-13 at Indianapolis, Ind.

**International First-Aid and Mine Rescue Meet.** Sixth annual event will be held at St. Louis, Mo., Sept. 1, 2 and 3, under the auspices of the U. S. Bureau of Mines and the Red Cross.